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INDUSTRIAL EDUCATION

IN

THE SOUTH

BY

REV. A. D. MAYO



WASHINGTON
GOVERNMENT PRINTING OFFICE
1888

U. S. —
BUREAU OF EDUCATION
CIRCULAR OF INFORMATION NO. 5, 1888.

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Amory Dwight
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Bureau of Education

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., January 6, 1888.

SIR: The accompanying monograph, prepared at the request of the Bureau of Education by the Rev. A. D. Mayo, relates to the subject of industrial education in the South. For the past eight years Dr. Mayo has been engaged in a ministry of education through all the Southern States. With no official relations, and with the sole end in view of observing educational affairs in the South, together with all forms of service and labor found to be practical in the communities visited, with the most hearty co-operation of the leading educators and public men everywhere, and the most kindly reception by teachers and pupils, his opportunities of studying the situation have probably not been surpassed.

The great interest in the subject of the industrial education of both races through the school systems of the South, the extent to which this form of instruction has already been carried, the means available for its further development, and the practical ways of engrafting it upon the present school life of that region, have all been the subject of careful observation and anxious inquiry from the beginning of the ministry of Dr. Mayo.

The present monograph is not a discussion of scholastic methods, or an attempt to give a premature opinion on many important points now under advisement by the foremost teachers and educational authorities of the country. The author has assumed the more useful task of setting before the Southern people the reasons for the growing interest in industrial education through the whole country, and the special needs of this type of educational work in the development of the great resources and the organization of the labor system of the Southern States, with a brief account of the principal institutions that have already undertaken the work.

An important part of this essay is concerned with the consideration of the present condition of the educational facilities in the country districts, where a large majority of the children and youth of the South are living. Particular attention is invited to this portion of the monograph, which contains a variety of suggestions for awakening public interest

to the inauguration of this work where it is most needed, and where, if properly directed, it may be made most effective.

In connection with the treatise of Dr. Mayo, it is proposed to publish a group of brief statements by the leading representative schools of the South that have already made experiments in the different departments of industrial training. These statements will be of great value, not only for the information given, but in the way of suggestions in the organization of courses of instruction in other institutions.

Believing that this monograph and its accompanying documents will be valuable and timely, I beg leave to recommend its publication.

I have the honor to be, very respectfully, your obedient servant,

N. H. R. DAWSON,

Commissioner.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

DEPARTMENT OF THE INTERIOR,
Washington, January 17, 1888.

SIR: Acknowledging the receipt of your letter of the 6th instant, I have to inform you that your recommendation for the publication of a monograph by the Rev. A. D. Mayo, upon the subject of industrial education in the South, * * * is hereby approved. * * *

Very respectfully,

H. L. MULBROW,
Acting Secretary.

The COMMISSIONER OF EDUCATION.

INDUSTRIAL EDUCATION IN THE SOUTH.

PURPOSE STATED.

The present essay is not offered as a discussion of the details and methods of Industrial Education, or as an exhaustive record of what has been already attempted in the South. The writer believes that the educational life of the country is to be enlarged and enriched by the incorporation of a judicious system of industrial training, both in its practical and artistic applications. An eight-years' observation of the educational needs and achievements of Southern American society, including both races and all classes, has revealed to him the great necessity for this type of instruction, and convinced him that the present condition of Southern educational affairs affords peculiar facilities for its organization and development. The account of Southern industrial schools has been largely verified by personal observation, the writer having visited every Southern State within the past eight years and inspected the majority of the institutions described. In other cases, he relies on printed reports and the testimony of competent visitors. Any omission of important schools or apparent failure to do justice in any direction can easily be corrected by a communication addressed to the writer, at the Bureau of Education, Washington, D. C. Meanwhile, the object of this essay will have been accomplished if the younger educational men and women of the South are inspired to a thorough study of this broad subject, so interwoven with the whole future of the Southern people.

GENERAL DISCUSSION OF CONDITIONS OF AMERICAN AND SOUTHERN LIFE.

Any theory of Industrial Education in the United States will depend on the opinion of its author concerning the past and present condition of educational affairs and the result of all the school life of the American people on the growing industries of the country. And just here is a fruitful cause of misunderstanding—the difficulty of a fair estimate of what has actually come from the past educational training of our people. Every thoughtful believer in the American order of society and government holds that the American life of the past two centuries has been the most stimulating, the broadest and most profound uni-

versity in which a people has ever been schooled since the dawn of history. Especially is this true of the past revolutionary epoch, whose results, at home and abroad, are already so apparent. In a civilization where every path to success in every realm of human life is thrown open to the humblest child, where every man is a sovereign and every woman "the power behind the throne," nobody can accurately say what the schools of any grade have or have not accomplished. For the people, directly or indirectly, make the schools, and their merits or failures are on the same line as achievement and disaster in every other department of American life. No American institution can be sentenced as the scape-goat of the national sins, and sent off into the wilderness under a curse. The people are the only scape-goats, and the people do not propose to abdicate at the summons of any earthly tribunal. Lord Macaulay, a generation ago, affirmed the profound truth that the foremost mind of every people uses the educational agencies at hand and, somehow, gets its training for life therefrom. Our human nature, like the all-surrounding air, "abhors a vacuum," and whatever American human nature does not find in the school-house, it makes haste to supply in any one of a hundred ways peculiar to itself. The pedant or narrow schoolman who fancies that American children and youth only learn what is included in "a course of study" and a text-book and is certified by "examination papers," will do great injustice; for here, as nowhere else, the educating influence of American life environs the school, supplies its deficiencies, and often makes its defects the suggestion of the most intense effort outside.

We are not, therefore, disposed to press the importance of Industrial Education in our country on the ground that our past educational systems have been a failure, and our present methods are working a widespread demoralization, especially among the industrial classes of our cities and populous districts. We fail to see the necessity, anywhere, of dropping one good thing when we pick up another, and believe a great injustice will be done by a judgment of this sort. Every intelligent friend of Industrial Education must acknowledge that the training and informing of the mind by good methods in any school is, to that extent, an outfit for the application of mental power to the work of life. Ignorance and mental stupidity are the bottom curse of individual or national industry. We hold that, while there have been the same defects in the schools as in every department of American affairs, they are entitled to a reasonable share of praise for that majestic development of industry which has made the Republic not only the richest, but incomparably the most active, enterprising, and progressive of nations in the development of national resources and the general enjoyment of comfortable living. Were it worth the while it could easily be shown that every American State, city, or locality is industrious, prosperous, and progressive in proportion to its interest in the schooling of all its children according to the best ideas and methods at hand.

Indeed, the new and wide-spread interest in Technical Instruction and the whole matter of Industrial Training is, in considerable degree, the outgrowth of those natural methods, especially of elementary instruction, which for the past twenty years have been gradually introduced into the superior schools of all parts of the country. Under different names—kindergarten, object teaching, normal methods—all included in the popular term, “the new education,” a prodigious advance has been made in the direction of a true theory of instruction and discipline for young children. The characteristic of “The New Education” is the attempt to train the faculties in their true order of development by those natural and divine methods whereby the infinite wisdom is schooling all men in the university of life. The logical outcome of all such work, when well done, is in the direction of the broadest and finest discipline for superior work. A great deal has been well done, and the thanks of the country are due to a large and increasing class of women teachers, who, with the patience, fidelity, enthusiasm, tact, skill, and instinctive knowledge of childhood peculiar to their sex, have done so much, in all ways, for the enlargement and humanizing of school life in general and the industrial tendency in particular. On them and all teachers who work in the spirit of these natural and divine methods of education the friends of industrial training must rely for the beginnings of their work in all classes of schools.

But the whole thoughtful side of the American people, within the past twenty-five years, has been wonderfully stirred by the rapid development of the resources of the country, in contrast with the inadequacy of organized labor to face the demand for their development. Since the close of the great War the illimitable western world, beyond the frontier, has been explored, interlaced with railroads, brought under the observation of experts, and, from the Mississippi to Alaska, spread out like a magical picture before the eyes of an astonished people. The vast central mountain realm of the East, from Harper's Ferry in Virginia almost to Montgomery in Alabama, as extensive as the German Empire, has been revealed as by the lifting of the mist, and its extraordinary resources for grazing, forestry, mining, and manufactures have, for the first time, been made known even to the people of the surrounding States. At the same time the American people have first come to an adequate conception of the vast realms of our Southland yet untilled—Yazoo valleys, Texas prairies, western Arkansas hills, boundless forests, countless miles of coast, with water power to whirl the wheels of numberless manufactures. And along with this revelation, more like a change of scene in the Arabian Nights' Entertainment than a sober reality, has come the realization of the incompetence of our labor system to deal with the stupendous task of the development of this new world, to say nothing of the improvement of what is now in hand. Of our sixty millions of people, any man who cares can find out how many millions of laborers are still among the ignorant and unskilled.

class who can only struggle with what they have now undertaken, in constant peril of defeat and with neither hope nor ability for an aggressive industrial campaign. Of the seven millions of colored people, the main dependence of several States for labor, the majority are still but little way beyond the old time habits of work, and thousands of white native people in the same States have made little advance over former methods of labor and industry. The Northern States are swarming with ignorant and unskilled laborers from the lower planes of European life, and the attention of the country is rudely summoned to the impending danger from an even more dangerous class of immigration. Whatever praise may be accorded to American invention, intelligence, enterprise, and the upper region of skilled labor, the problem still confronts the economist and the statesman—how to train and organize the industrial army to march over and possess the promised land.

This conviction is sharply emphasized by the amazing development of labor-saving machinery within the same period. All reasoning on industrial, social, and political problems that does not include this most astonishing of all the revolutions and revelations of the ages—the effect of the inventions, discoveries, and applications of physical science within the past half century—is now “ancient history.” “The things that are seen are temporal, but the things that are not seen are eternal.” While the earth has trembled with the tramp of the most powerful armies ever marshalled and the whole outward political administration of mankind has been changed, there has gone forward, like the every-day miracle of Providence, this wondrous conquest of the powers of nature that almost explodes every former theory of the nature and capacity of man. Any clever graduate of a school of technology can now do a score of things that would have been as impossible to his grandfather as the miracles of antiquity, and the intelligent laborer of to-day represents sometimes the toil of a regiment of stalwart men a generation ago. It is simply pitiful to look upon the frantic efforts of the labor demagogue or “master workman,” fumbling with the impossible problem of making the unskilled mechanic the equal of the man who leads the powers of nature in his daily toil. The bottom charity of to-day is to convince every American boy and girl that the ignorant and unskilled person anywhere—the hod-carrier on his ladder, or the lady in her palace—is only a helpless child, at the mercy of the trained army of industry moving to the front to possess the earth. More and more the laborer who can not “make connection” with nature through the agency of machinery must fall to the rear, and in the midst of abounding wealth remain obscure and poor, defeated in the race for life.

The upshot of all this is that the industrial demand of the day is intelligence in the masses and skill in the leadership of labor in every department of American life. Nobody expects that the masses of laboring men and women can be made skilled laborers. But the masses can be gradually trained to the intelligence needful in meeting the new con-

ditions of labor, and the leaders of industry can only be found among those in whom large original faculties have been developed by the thorough training of the expert.

And when the country looks about for the way of doing this, it is only natural and wholly reasonable that it should ask : Can not the educational school system, now supported at an annual expense of \$150,000,000, and including ten millions of children and youth, be made in some degree the agency for this new training and organization of the industrial forces ? The question is so reasonable that the country " will not take No for an answer," however eminent may be the educational authority that pleads the negative. The demand for the new consideration and thorough organization of the industrial feature of our American educational systems is not visionary, impracticable, or in any way a disparagement of the value of what has already been achieved. No competent educator now denies that both moral and mental training, heart and head, must be fitly joined in every successful school. The time is rapidly approaching when no competent educator will either deny or disparage the training of the hand as the instrument of the heart and the head ; the joining of the executive to the moral and mental force in the schooling of every child.

Already this demand has met a response, as far as relates to the training of experts in all the mechanical trades, and, in less measure, in agriculture. Although the Government assignment of lands for the establishment of agricultural and mechanical colleges to all the States in 1862 appeared somewhat premature, it was yet none too early, and the gift has already borne abundant fruit. New and important schools for the training of experts in the mechanic and decorative arts are being established, by noble gifts, in every portion of the country, especially in the States most distinguished for their present educational facilities. It is now probably easier to persuade men of large wealth to give generously for this than for any class of educational establishments. In the secondary schools, especially the free high schools of the country, something has already been done towards the organization of a separate department of manual training, and, in some cases, its general introduction as a part of the schooling of all pupils. In the larger field of the industrial training of the masses of children who leave school at the age of twelve or thereabouts, many interesting experiments are under way, and all the improved methods of elementary education are taking on the industrial shape. Leading educators are studying this phase of the question with great care and an earnest desire to meet the demand of the country ; and if progress appears to be slow to the impatient advocate of the cause, it must be remembered that the wisest teacher best appreciates the obstinate conservatism of childhood, is most cautious in sudden changes, and guards most carefully the whole nature of the little one from premature stimulation, even in the most essential requirements.

With this general survey of the whole field, which seems not inappropriate as a point of observation, we proceed to a consideration of the South, its needs, opportunities, experiments, and achievements in this department of industrial education.

DISCUSSION OF SOUTHERN RESOURCES, ETC.

The considerations already noted apply with special significance to the majority of the sixteen States once classed as Southern; although the Southern people, in popular speech, now often include the border States under the general title, *the North*. Nowhere in the country has the discovery of vast material resources been hailed with such astonishment and enthusiasm as in several of these States. The old-time system of Southern agriculture left vast regions of mountain, mineral, and forest land untouched and very imperfectly known, while the enormous water-power of the rivers descending from the central highlands was but little used. An examination of the census fills one with amazement at the comparatively small area of land under cultivation in some of the oldest of these States. But the "times of this ignorance have passed away," and the leading classes of the Southern people are now thoroughly awake to the amazing natural wealth of their country, and the outside world always comes back from a tour of observation with figures of rhetoric as the only fit expression of what it has seen. With all due allowance for the enthusiastic temper and wonderful hopefulness of the Southern people, the writer of these pages has seen enough to verify the statements and opinions here expressed.

Nobody can look upon the magnificent natural advantages of Virginia without high expectations of the future of the Old Dominion. In the advantages which the State still possesses in her western and south-western area are the materials for a greater prosperity than she ever knew; while her eastern rivers and harbors still invite the commerce of the world.

North Carolina, apart from an immense deposit of mineral wealth and vast water-power, has in her beautiful mountain region a field for stock-raising of indefinite extent, while her coast country may become the vineyard, truck farm, and fishing-ground of the populous Northeast. The capabilities of Florida are already sufficiently made known to need no description, and the rapid multiplication of farms and growth of cities in Georgia justifies the pride of its people.

Alabama, so long the home of quiet conservatism, is now in a blaze of excitement over the rapid discovery and improvement of her northern world of iron and coal; while, in the southeast, a new agricultural country, as large as the State of Connecticut, is coming out of the woods, and her coast and numerous rivers offer an extent of interior navigation hardly excelled by any State. The experts tell us that the new cotton region of Mississippi opened by the railway from Memphis to Vicksburg, and secured from overflow by improved levees, will produce

as much cotton as is now raised in all the States—leaving the old plantation country to be developed in the rising stock and dairy industry, and its vast forest realm, covering more than a third of the State, to be developed in the near future. Louisiana only requires a new adjustment of its leading agricultural interest, and better defence against its turbulent waters, to become a garden of beauty and fertility; and the industrial department of Tulane University, if well supported by the people, will make New Orleans, in a generation, the centre of ornamental manufactures for the increasing populations of which it is the natural metropolis. Texas can be safely left to the enthusiasm of its own progressive class for due publication through Christendom. Arkansas, already one of the most substantial and prosperous States of the Southwest, has a western region fitly described as Vermont removed to a southern latitude, while no State would profit more by a vigorous system of river improvement. Tennessee is not surpassed by any Southern State in her natural advantages, indeed is three States in one, with four of the most prosperous cities of the South. East Tennessee is a sort of Southern New England. The five border States need no “boom,” and nothing but reactionary economics and social class prejudice can hold back the enterprising portion of their people from the splendid future already in their sight. South Carolina, the greatest sufferer by the War, has displayed an energy in education and in the enlargement and variety of her industry almost unparalleled under the circumstances, and Charleston is doubtless in better shape for future growth than before the high wind and the great shake of the past three years. It is not necessary to build up the fabric of Southern prosperity on any imaginary downfall or decay of Northern enterprise. The mighty North is still only on the threshold of a grander future than it even now appreciates. The industries of the South, with a wise political and social direction, at best, will hardly keep pace with the growing demands of its own population. The South is as large as Europe west of Russia, and the developed South, with its Territorial annex, will easily support twice the population of the present Union.

But over against this picture, in justice to the South itself, must be set the honest statement of the peculiar disabilities in its system of labor, lack of capital, and the great deficiency in industrial training in the majority of its laboring people. It is not necessary to exaggerate these defects as they doubtless are often exaggerated; sometimes by political prejudice and the impatience of the Northern enterprising class most inclined to look Southward for a field of investment, but oftener by the profound ignorance of the actual status of Southern life which still involves even the intelligent masses of the North, and makes both the political and religious press a sort of drop-curtain on which is painted a thoroughly misleading picture of this entire section of the country.

The South is also misrepresented by a class at home, sometimes influential in public and social affairs, which feels called upon to resent

every moderate and fair statement of Southern industrial disabilities as a demonstration of political prejudice and sectional malignity, while, by its absurd boastfulness, it is misleading the people at home and creating prejudice abroad. Certainly, the writer of this monograph has no interest, either for optimistic views of Southern progress and opportunity or the disparagement of the Southern people, which, in both its races, only needs to be better known to be justly appreciated for its present achievements and congratulated on the splendor of a future which may be seen by some who now read this. The picture here presented of the labor situation in the South is that which forces itself upon every fair-minded and intelligent observer from beyond its borders, and is held by every competent man of large business capacity and broad and patriotic views encountered in the writer's experience of eight years in every Southern State.

Of the eighteen millions of the Southern people, seven millions are colored and of a race only twenty-five years emancipated from slavery and less than three hundred years out of the abject barbarism of the Dark Continent. Apart from moral and political considerations, every impartial observer must realize that, in the period before 1860, the Negro made greater progress towards civilization than any people known to history in a time as brief. He learned the three fundamental conditions of modern life—steady and persistent work, and the language and religion of the foremost people of Christendom. Whatever may be said or thought to his disparagement, his progress during his twenty-five years of freedom has justified the reasonable hopes of his judicious friends. No well-informed person can deny the significant fact that every year a larger number of the Negroes are becoming independent land-owners, living in comfortable homes, in good family life, getting the elements of knowledge, and “growing” a genuine superior class, characterized by industry, economy, intelligence, and morality, whose influence is everywhere felt on the masses below. The Southern Negro now owns from one to two hundred million dollars—the fruit of his first generation of freedom. And, although there are still plenty of people who deny his capacity for the higher industrial occupations, yet the Negro is doing, with fair success, everything his critics insist he can not do, and his ability for industrial development is nowhere better appreciated than among the leading experts and wisest economists of the States that know him best. Perhaps it will turn out that the greatest advantage of the Negro is that he is the latest comer on the threshold of modern civilization; that his past has been free from the awful calamities of war, pestilence, and famine, whose grim ghosts still haunt the dreams of every European people; and that he begins his new career in an age of light, philanthropy, and economic science, a citizen of the world's great republic, among a people who are bound to him by the strongest of all ties—companionship in the home, industrial dependence, and community of religion.

But all this can not shut the eyes of men that see things as they are to the actual condition of this great and rapidly increasing body, considered as an industrial force competent to wrestle with the gigantic fact of the Southern need of material development. To talk now of the advantage of an ignorant and docile peasant class as an important element of American life, is to talk to the winds. The negro will not be especially ignorant half a century hence, and the more he knows, the less of a stolid European peasant he will become. His ignorance, indifference, indolence, shiftlessness, superstition, and low tone of morality are now prodigious hinderances to Southern development, involving the great low country, where he swarms, in a condition which no agricultural people can permanently endure—an effectual bar to the coming in of a superior class, whose enterprise and capital might rehabilitate the land; while every considerable town and city has a glut of the lower strata, and domestic service is involved in such confusion and annoyance that the Southern housekeeper is the most sorely afflicted of all her troubled sisterhood in civilized lands.

A considerable class of white labor through large regions of the South is only superior by the native superiority of the white race or its hereditary training through centuries of civilization. While agriculture, which must for many years be the overwhelming interest of the South, is everywhere improving, especially in the uplands, and by the skill and enterprise of a growing class of skilled agriculturists, the immense mountain world, inhabited by a million white people, still lies in the shadow, and thousands of hard-working farmers are struggling with the almost hopeless problem of seeking prosperity by antiquated methods of work and unenterprising habits of life. The rising manufactures of the South will soon absorb the class of the poorer white people, now at work as operatives, to their own great advantage and the advantage of the community, and the question of training the colored people for such occupation is already upon the managers of the mills. The time is past when the Southern white people are justly open to the charge of "laziness." Considering the conditions of climate, the lack of diversified occupation, and the dreadful collapse of health and spirits that followed the superhuman effort of the War period, they are working with commendable vigor and facing the new situation in a manner worthy the American name. Too many of their superior young men are swarming the towns and going to the Northwest for the rapid development of affairs at home, and their places are not supplied, as in the old Northern States, by a prodigious inflow from abroad, whose second generation is coming to the front in many ways for the upbuilding of the old waste places. The women of the South, as a body, have proved themselves worthy of all praise in the past years of trial. The younger women of all classes are a most hopeful, active, and progressive element in education, religion, and the splendid crusade for temperance and public morals. But while New England boasts of two hundred ways by which

an instructed woman may earn a respectable living outside of school-teaching, there are not ten avenues of profitable occupation open to the white girls of the South. Every Southern State is now making great efforts to attract the only sort of immigration of real value. Nothing would so complicate the Southern situation as the swarming in of large bodies of ignorant European people, whose hatred of the negro would precipitate labor difficulties, with impending peril of social war. Indeed, the southern European immigration now directed to some of the Gulf States is too much of this sort. But the industrial disabilities of the present are the chief reason why the better sort of immigration, outside flourishing towns, is sporadic and has in no considerable way affected the country. The new Southwest, between the Missouri and the Colorado Rivers, twenty years ago a new country, has received a great movement that has developed its resources and is rapidly making southern Missouri, western Arkansas, and northern Texas one of the most attractive portions of the country.

All this in no way impeaches the fact of the genuine progress of all portions of the South. The native Southern people, of both races, are increasing faster than the old North, perhaps than the new West. Everybody, with ordinary exceptions, is working harder, and whole classes of people, once living in leisure, now swell the industrial throng. All people, save the vicious and idle, are living more comfortably than ten years ago. But still the problem is there. With boundless resources, peculiar advantages of climate, its intelligent people awake to all the opportunities of modern life; outside the professional politician class, its white people, almost exclusively of the old American stock, thoroughly patriotic and committed to American ideas; its laboring classes are yet so hampered by an appalling illiteracy that is itself a national peril, by unintelligent and often primitive methods of work, and all the unspeakable botheration in every department of life that comes therefrom, that this whole section of the country stands waiting at the beautiful gate, only yet ajar, that opens to the Promised Land.

STATEMENT OF SOUTHERN ACHIEVEMENTS IN POPULAR EDUCATION.

The "bottom question" in Southern life is neither political, in the partisan or economic sense, nor social, even including "the race question," half as much as it is the educational question, in the broadest sense of the term. First, the training of the masses of both races in that elementary common schooling in knowledge, discipline, and the general awakening of mind which has been the largest factor in the development of the North and the foundation of the present power of Germany, is now the hope of liberalism in Great Britain, the promise of the future in France and Italy and Austria, and the mighty agency that within a short generation has wheeled Japan into the line of civilized nations. With all forbearance and personal respect for people of every sort who now stand in the way of the effective common schooling of the

Southern masses, it must be said that the best friend of that section is the portion of the educational American public that is pushing forward the movement to plant a good district school for six months in the year everywhere in the open country, and a good graded school for eight or nine months, with opportunity for training teachers, in every village of these sixteen States.

Along with this goes, logically, every wise effort for the improvement of the quality and enlargement of the opportunity of the secondary and higher education—enough of it to train the superior class of colored youth for teachers and for the professional and wise general leadership of their people, and especially its development to meet the rising demand of the young Southern white women, who are now fully awake to the desire for the best culture offered to woman in the new time.

The writer of this monograph insists on this development of general education as the fundamental condition of any effective system of industrial training among the more ignorant classes of the South. A boy reared in an intelligent and enterprising community, his whole environment a stimulant to mental activity, may be trained to industrial skill with a moderate allowance of schooling, though here the advantage is always, other things equal, with the most thoroughly educated youth. But the attempt to polish a brick-bat, on the theory that it is a block of marble, is sanity itself compared with the incredible folly of attempting to train several millions of people in Southern fields and homes to skilled or intelligent labor without the development of mental activity and common information as a basis of operation. When we are told that the ignorant laborer is only spoiled by education, the real statement should be that the huddling of crowds of children for a few weeks in the year in comfortless quarters, under stupid or vicious teachers, is not education, even though the majority get hold, in some way, of a little reading, bad writing, and small figuring. The training in a good school, in wholesome quarters, by a competent teacher, who also represents the moralities of life, is always and everywhere an industrial, no less than a religious, social, and political uplift.

As fast as this is secured, judiciously going along with it, the South needs a vast system of practical, wise, gradual industrial training of the masses, and the foundation of schools of agriculture, mechanics, skilled house-keeping, and decorative art, to supply experts and the higher order of skilled workmen of both sexes. The writer has no time for serious argument with any theorist who still holds to the old-time European idea of an ignorant and contented multitude governed and steered by a class trained for permanent leadership. It is enough to say that every progressive civilized nation has turned its back on that social scheme, and the success of every people is in precise ratio to its achievement in the training of the masses in that instruction and discipline, mental, moral, and executive, which is the only true significance of education.

It now remains to inquire what the Southern people are doing in this department of industrial training for an expert and skilled class, and what for the promotion of enlightened industry among the masses of both races, with some suggestions for the furtherance of this good work under the peculiar circumstances of Southern life.

INDUSTRIAL SCHOOLS AND MANUAL AND INDUSTRIAL TRAINING IN PUBLIC SCHOOLS AND PRIVATE ACADEMIES.

It is not the purpose of this essay to set forth the beginnings of Industrial Education in the Southern States before 1860. Every experiment in this, as in other departments of education, had been tried, at different periods, in these Commonwealths. Here, as elsewhere, Thomas Jefferson displayed his remarkable genius as the prophet of the American system of instruction now universally adopted. His plan for the education of the people of Virginia, a century ago, included almost every feature of the present school life of that State, not excepting the industrial training of colored youth, so well done at Hampton. Manual labor schools had their usual run in the South, with the same result as in the North. A good deal of valuable instruction was given in the various military institutes, from which the South has recently derived great advantage in the growing demand for engineers and leaders in its new manufacturing operations.

But the real "new departure" dates from the year 1862, when Congress, in the midst of a war for the preservation of the Union, granted large bodies of public lands to each of the States for the establishment of agricultural and mechanical colleges. This law permitted the introduction of a moderate college curriculum into these institutions. Gradually the returning States accepted this gift, and all of them have made some endeavor to utilize it, most of them for the benefit of youth of both races. The method of applying the fund has been twofold.

Ten of the sixteen States have combined the agricultural and mechanical with the State university. Several of the States used the income to rehabilitate their State university, or to establish that type of college for the first time. The State of Kentucky, after various experiments, has established her agricultural, mechanical, and normal college on an independent basis; but the remainder of the ten have persisted in this combination of regular university and industrial education in the same institution. The result of this experiment can hardly be said to be satisfactory, as far as industrial training is concerned. The South still holds in great reverence the old ideas of classical instruction, and it was inevitable that, at first, the industrial department should fall to the rear or be very gradually developed, especially where this was the only university in the State subsidized by public funds. Within the past few years, however, and notably since the great awakening of Southern educators by the World's Industrial and Cotton Centennial Exposition

at New Orleans, in 1884-85, this department of all these colleges and universities has received more careful attention.

The State University of Missouri is doing excellent work with a model farm and in connection with the agricultural societies of the State. The Legislature of South Carolina has just made an important addition to the State University for its improvement in this direction. The Tennessee State University, at Knoxville, will find in its new president, Dr. Dabney, an intelligent and energetic friend of this cause. The same is true of the University of Arkansas. The National Government has recently given to the University of Louisiana a valuable donation in the permanent use of the Government barracks and lands at Baton Rouge. North Carolina is offering improved facilities at Chapel Hill. Delaware, Maryland, West Virginia, Florida, and Georgia have done enough to encourage the hope that their future use of this fund will be satisfactory to the growing demand of the people.

The States of Virginia, Texas, Mississippi, Kentucky, and Alabama now support agricultural and mechanical colleges separate from their State universities. Of those visited by the writer, the institutions in Mississippi and Alabama, at Starkville and Auburn respectively, seemed to have grasped the situation most firmly. President Stephen D. Lee, of the Mississippi Agricultural College, is at work with great vigor and enthusiasm on the problem of diversified farming, fruit culture, the development of valuable native grasses, stock-raising, and the application of the new methods in the dairy. Already a great interest has been awakened in the State, and Mississippi may yet find in this direction a relief from her present embarrassment of worn-out cotton lands, with new wealth in the culture of fruits. The Alabama Agricultural and Mechanical College has a faculty not surpassed in the South, and its able president, Dr. W. Le Roy Broun, has added to the farm a department of manual training very attractive to the students, while the general instruction is of a high order. The reckless assertion sometimes made, that this grant of Government lands has been wasted or misused, is disproved even in the States that have made the least of it, and signally refuted by the present condition and enlightened plans of several of these agricultural and mechanical colleges for white youth.

One of the most interesting experiments in this direction is the recent establishment of the industrial college for white girls at Columbus, Miss. Through the generous subsidy of the State, with local aid from the city and county, this institution, which includes academic, normal, and industrial departments, and offers free instruction to several hundred young women, has begun its good work under flattering auspices. Every girl is compelled to include some industrial branch in her course of study, and this side of the institution has been emphasized in a very hopeful way. A few years of careful administration will make this a model school of its kind, which will be copied in every Southern, possibly in some of the Northern States. Some of the Southern State agri-

cultural and mechanical colleges admit women, although co-education in the South has not advanced beyond the experiment in a few of the higher institutions.

Nearly all the Southern States have made the attempt to give the colored people the benefit of a portion of this national fund. Virginia led by appropriating \$10,000 a year to the Hampton Institute for colored pupils, and the Government of the United States has added a subsidy in behalf of a considerable number of Indians. It is unnecessary to rehearse the splendid work done at Hampton. On this point, in full sight of the landing place of the first ship that brought the African savage to American shores, now rises a village of educational and industrial buildings, many of them erected by the students, with valuable and thorough instruction given to boys and girls in the various departments of agricultural, mechanical, and household industry. The visitor to the leading colored schools of the South often meets the graduates of this, in some respects, the most striking of the great mission schools established for the superior education of colored youth by Northern funds, occasionally assisted by the National Government.

There are now perhaps fifty of these institutions, several of them offering facilities for collegiate and professional study, of the grade of the high school of the better sort, containing in the neighborhood of twenty thousand pupils, almost entirely under the instruction of white teachers representing the various Christian bodies of the Northern States. Their buildings and facilities for study are generally excellent, and the style of instruction is equal to institutions of similar grade elsewhere. They are now all taking on the industrial department in farming, gardening, skilled housekeeping, printing, and a variety of mechanical trades. Several of them are doing a thriving business in the sale of manufactured articles. Mississippi and South Carolina contribute, through their Legislatures, for the support of these schools, while Texas, Louisiana, Mississippi, Alabama, and possibly some other States support similar schools under State supervision. The most interesting of these is the normal school at Tuskegee, Ala. Here, in the midst of a dense colored population, on the borders of an old, cultivated Southern town, the visitor finds a group of a dozen buildings and an enthusiastic crowd of several hundred pupils, under the exclusive management of teachers of their own race. As demonstrating the feasibility of such an arrangement, under State supervision, this remarkable school is a model, coming nearer a self-supporting community, in respect to diversified industries, perhaps, than any similar school in the country. Some of the States appear to have given their colored population no benefit from this national fund, though it is believed that all, in some way, are now encouraging the higher industrial training of colored youth in some form.

Nothing has more beautifully illustrated the growing friendliness of the Northern Christian people than this investment of several millions

of dollars, within the past twenty years, for the academical, collegiate, and normal instruction of colored youth in the South. While the Southern people themselves have wrought with such heroic purpose to rehabilitate their system of colleges and academies prostrated by the War, and have planted, in every State, for the first time, the American system of common schools, free to every child, and developed them according to their ability, this important and expensive work of training the superior colored youth for teachers, clergymen, and leaders in the rising industries of the country has been largely carried on by bountiful donations from the Northern people, supplemented by national aid and tuition fees of the students. The advantage of combining industrial with scholastic training, as it is in all these valuable schools, can hardly be overrated; indeed, some of them, in this respect, are models that might be copied in the most cultivated States of the Union. In time all these schools will inevitably pass under the control of the Southern people, as most of them now include men of local influence in their boards of management. No more valuable contribution to the industrial and social progress of the country has been made than this, which is thoroughly appreciated by all persons in a condition to understand its present influence and its future outcome. The graduates of these schools are everywhere becoming the leaders of the colored people into a higher intelligence, morality, and skilled industry. The donation of the Slater Fund of \$1,000,000 is now administered by Dr. Atticus Haygood, of Georgia, as secretary, in a way to stimulate and give intelligent direction to the best methods of industrial discipline and instruction in the place where such training bears the best fruit—among the teachers of the two millions of colored children of the South.

But the finest work in the training of experts and the organization of instruction in manual training, drawing, and decorative art is found in a number of important schools, established by large private benefactions, to some extent supplemented by local contributions. In the city of Baltimore is found one of the oldest of these in the Maryland Institute—a first-class school of industrial and decorative art and architecture, in its day and evening classes including several hundred pupils, supported by city, State, and private aid, and tuition fees, under the superintendence of President Otto Fuchs. One of the McDonogh schools was established in Baltimore, and offers a practical training to a large number of children. In the direction of the relations of scientific instruction to industrial training, Johns Hopkins University is doing a valuable work, and its eminent president, Dr. D. C. Gilman, is one of the foremost advocates of the good cause. In Baltimore, Washington, St. Louis, and other cities of the South several of the higher classes of Catholic seminaries have done excellent work of this sort, whose exhibit at New Orleans, in 1884, received the highest commendation from the United States Commissioner of Education in his valuable Report, which may

here be mentioned as one of the most elaborate literary contributions to the educational progress of the South.

The city of Washington, itself, with its Congressional Library, National Museum, Bureaus of Education and Agriculture, Patent Office, and the various industrial features of other departments of the Government, is rapidly becoming the great national university. It is impossible to estimate the educational influence of Washington on the South, which naturally looks to the political metropolis for leadership in building up its new educational structure, and that influence is all on the side of industrial education. Could the Bureau of Education be enabled, by the wisdom of Congress, to establish a great model museum, where the finest methods of industrial training in all countries could be illustrated, the impetus to this movement in the South would be prodigious, and no money would pay a better investment in the development of its natural resources. The Agricultural Bureau may be easily made, through its handling of experimental stations, the most influential agency of its kind in the country, and the new National Library should include a complete department of the literature of industrial education.

In the State of Virginia is found one of the most valuable of the industrial schools of the country, in the Miller Institute, endowed with \$1,000,000, under the supervision of the State. Its buildings, grounds, and shops offer excellent facilities for the instruction of a large number of white boys. The most competent visitors to this institution, located in Albemarle County, are loud in praise of its superior management. Some of the higher institutions of learning in this State are also working, on scientific lines, in this direction.

At St. Louis is found, in the manual training school and polytechnic and art departments of Washington University, one of the most valuable organizations of industrial and artistic culture in the Union. Professor Woodward, of the manual training and polytechnic schools, by common consent has given to the whole country a working scheme for a department of manual training in all free, high, and academical schools. He has shown that all the academical studies, including preparation for college, can be successfully combined with some hours a day of hand-work and drawing. There is no reason why every high and superior academical school in the South should not establish an elective department of this sort, even if in a small beginning. The expense of the foundation must be met by the friends of this department; but with expert management there is little doubt that, in the end, the superior attraction of a school thus furnished will more than repay the original outlay.

In several States south of the border, especially in the more flourishing cities, the attention of leading educators is attracted to the various forms of industrial training. One of the most hopeful of recent movements is the establishment of the School of Technology for white youth, at Atlanta, Ga., by the Legislature of that State. In October of the

present year this school will open under the Presidency of Dr. Hopkins, late of Emory College, one of the ablest representatives of advanced collegiate and industrial education in the South. The observation of the writer of this monograph encourages the belief that in the near future every important city of this section will afford facilities for this department of education. The flourishing school of Rev. Toomer Porter, of Charleston, S. C., where several hundred white boys are educated, largely by contributions gathered from a wide source, has a valuable course in industrial training, and the Military Institute of Charleston, with some of the public charities, is working that way. Vanderbilt University, at Nashville, affords increasing facilities of the same sort. There is the usual supply of flourishing business colleges in all the leading Southern cities, and in several of them associations for the promotion of industrial and decorative art have been formed.

But the most interesting and significant of all Southern movements for the combination of industrial with the secondary and higher education is found in Tulane University, in the city of New Orleans, La. This institution, already in the number of its students one of the largest in the country, was established four years since, through the gift of one million five hundred thousand dollars by Paul Tulane, a retired merchant of that city, and now includes the former law and medical schools of New Orleans, with the University of Louisiana as its academical department. Originally established for white boys, it has recently been enabled, by the munificence of two ladies, to include a college for the higher instruction of girls and a valuable free library. President William Preston Johnston and the trustees and faculty of Tulane University have displayed remarkable wisdom in its organization and management. With full appreciation of the great needs of Louisiana for popular education, the new university touches every spring of instruction. In its free dispensation of normal instruction for the teachers of New Orleans, its support of an elaborate system of free lectures on a variety of topics, its collection of a good museum and library, its accessibility to all classes, it is assuming the natural leadership of popular education in Louisiana. The writer believes it is the only university of the first class that has had the courage to make manual training and industrial drawing a compulsory exercise, through its entire academical and freshman college classes. The industrial department, under the management of Professor Ordway, formerly of the Massachusetts Institute of Technology, and a corps of able assistants from the Massachusetts State Normal Art School, with possibly one exception, is the most extensive and best furnished in the Southern States. Through its college and a variety of evening classes for men, women, and mechanics, and frequent courses of practical lectures to associations of workmen; its society for the promotion of industrial and decorative art, and its school of artistic culture in the girls' Sophia Newcomb College, it is becoming the most beneficent agency in the Southwest in the development of

what may be, in the near future, one of the most prominent features in the life of New Orleans. This city, so wonderfully placed by nature as the metropolis of one of the most richly endowed portions of the Union, with a large population of French descent, inheriting all the aptitudes of the home stock, and an unusual number of the ablest class of the colored folk, can not fail, under its present leadership, to become, at no distant day, a great centre of decorative, ornamental, and artistic production, similar to the leading manufacturing cities of France.

An excellent beginning in manual training has been made at Emory College, Oxford, Ga. Here is found a school of mechanics, which is gaining reputation also as an actual manufacturing establishment, supplying orders for superior workmanship. This monograph does not pretend to give a complete account of all even of the notable establishments of this sort in the South. The rising manufacturing, mining, and lumber interest of the country in many ways is working in the direction of skilled industry. A good factory of any sort, under a broad and humane management, which includes the schooling of children and the "breaking in" of numbers of poor and depressed people into profitable work, is now one of the most beneficent agencies in the new development of Southern affairs. At Columbus and Augusta, Ga.; Graniteville, S. C.; Birmingham and Anniston, Ala.; Natchez, Miss.—indeed in all the rising manufacturing centres of the entire South—the writer of these pages has been happy to welcome a powerful ally of the new Southern movement for universal education. The same may be said of the vast railroad interest, which, through the establishment of centres of manufacturing industry, and often through the enlightened beneficence of corporations that have demonstrated the possession of a soul, has administered to the same popular need. The South has turned its face towards industrial training for experts and the leaders of skilled labor for both sexes and both races, and there is no probability that it will face backwards,—rather are the signs of steady development more auspicious with every new year.

But while the higher forms of industrial education which concern the training of experts and skilled laborers are in a hopeful line of development in the Southern States, the corresponding enterprise of lifting up the great mass of illiterate and unskilled to intelligent and more effective laborers, as far as instruction in schools is concerned, is in its earliest stages. But the zealous friends of manual training must remember that in a country like ours the word education has taken on a new meaning. Society itself, as it becomes more vital, intelligent, and moved by stimulating influences, is often the best school for developing any feature of the national life. Nowhere is this fact so apparent as in many portions of the South. The sixteen Southern States cover an area as large as Europe west of Russia, inhabited by nearly 20,000,000 of people. The South is still a rural country, away from the border having but one city of 100,000 people, its oldest State gathering not

one-eighth its population in towns of 2,000 and upwards. Many of these States are sparsely populated, and there are still large districts of country remote from rapid transit. An American people thus situated is not apt to subside into the stolid contentment of a European peasantry, but, in various ways, endeavors to overcome the disadvantages of the situation. The Southern people are remarkably social, and no portion of the country is so largely educated by conversation, friendly intercourse and public speech. There is now a great Hegira of enterprising young men from the most remote rural districts to the towns and cities of the North and Southwest, and every boy or girl who leaves home creates a new bond with the great moving world outside. In this way a great deal that in more crowded communities depends upon schools is partially obtained in these natural ways. The World's Industrial and Cotton Centennial Exposition at New Orleans, in 1884-85, was felt in every Southern community. Thousands of people, of all ages and both races, carried home the wondrous story, and for years it will be rehearsed, always to the awakening of new interest in every department of industrial life. The splendid exhibit of industrial-school work, domestic and foreign—the finest ever made in the country—aroused the educational mind of the whole South to an intense interest and inquiry, which in time can not fail to produce remarkable results.

But when we speak of the industrial training of the Southern masses in schools, we must bear in mind the present conditions of popular education. For it can not be too often repeated that the only substantial basis for industrial training is what is generally included in the instruction of a good common school. If this school represents the new educational methods, all the better. There has been of late in some quarters a disposition to magnify the results of the common school movement in the South, until an impression prevails which entirely misrepresents the real situation. It is true that no people under similar circumstances have made such progress in popular education as these sixteen States during the past twenty years. But the work attempted was so vast, the difficulties so great, and the resources so limited, that it is no disparagement to tell the sober truth in regard to the actual status. In brief, there are now 6,500,000 children and youth in these States, of legal school age, between six and twenty. Of these, in 1880, 35 per cent. of white and 70 per cent. of colored between the ages of 10 and 14, and 69 per cent. of colored and 18 of white between 15 and 20, were unable to write. Affairs have somewhat improved in the past few years, but still this vast number of children and youth as a body require a good common school six months in the year as their least creditable outfit, not only for the duties of citizenship, but as a basis for anything that may be called industrial training. The schools are in session from three to four and five months in the year. Not more than one-half of these 6,500,000 are "enrolled," and a smaller number is in regular attendance in proportion to the whole than in more

avored communities. A great deal of the teaching in country, and especially in colored, schools is of a low grade. A growing class of graded schools in towns and cities are conducted by the best methods, and nearly all the larger cities have good systems of schooling for both races. But nine-tenths of the Southern people live in the open country, and Southern school-men alone can appreciate the disadvantages of the situation. When the Southern people are urged to "put their own shoulders to the wheel" and give up expectation of outside help, the fact revealed by the forthcoming Report of the Bureau of Education that the Southern Atlantic group of States is taxing itself on its own valuation within one-fifth of a mill on the dollar as much as the Northern Atlantic group, the wealthiest States in the Union, while it is able to give even to those who attend school less than half the annual sum given by the Northern group, rises as a warning to undue expectation. The plain fact of the case is, that unless the entire South can in some way, within the coming fifteen years, obtain twice as much money for popular education as to-day, its schools can hardly keep pace in their present shape with the growing demand, and several millions of children will be crowded up to the threshold of American citizenship either illiterate, or with the most meagre outfit for life in the new Republic.

We need not, then, be surprised at the slow progress that industrial education has made in Southern elementary, or even the ordinary private and academical schools. Outside of sporadic cases of mission work among the colored and poorer classes of the white people—of which there is probably more than is supposed—this instruction is found only in the graded schools of a few cities, and even there only in its beginning.

The city of Baltimore supports an industrial school, in connection with its public school system, with 150 pupils, which makes a creditable showing, and drawing has been introduced into the public schools. Last year Congress appropriated \$5,000 for an experiment in the public schools of Washington, which is divided between the white and colored pupils. Thirteen hundred white youth are now instructed, in several buildings set apart, in woodwork and cooking, with gratifying success, and the arrangements for colored pupils will be organized in due time, although at present such instruction is given only from two to four hours per week and is not compulsory. Louisville, Ky., has been at different times a good deal interested in this question, but we do not learn that much progress has been made. The public schools of St. Louis are, perhaps, not excelled in kindergarten work and drawing, and other large cities and towns in Missouri are working on the same line, with their leading school men thoroughly interested in discussing the feasibility of the undertaking. Industrial drawing is being introduced in several of the graded schools of the Southern cities and the normal schools now established in several States. The summer in-

stitute for teachers is bringing to the South many of the leading educators of the Union, whose influence is in this direction. The spring and summer Chautauqua assemblies at Monteagle, Tenn., and De Funiak Springs, Fla., include a course of instruction in skilled house-keeping and some other branches of industrial training, and it may be that sewing is taught in some of the public, as it certainly is in many of the mission and private schools for the Negroes.

CONSIDERATION OF MEANS AND METHODS OF AIDING, PROMOTING,
AND IMPROVING SUCH TRAINING.

We now come to the practical question, What can be done by the teachers and friends of industrial education through the South in furtherance of this great enterprise, bringing the hand into permanent and vital relationship with the head and the heart in training its six million children and youth?

The first condition of success is to cherish no illusions; face the situation with courage and truthfulness; take hope from the achievements of the past twenty years; begin at the beginning and work in that "never hasting, never resting" way that brings all good things to pass. Remember that, after the great and praiseworthy efforts of the past twenty years, only half the children and youth of these sixteen States are in school at all, and less than half enjoy an average of four months' annual schooling, while the number of years of attendance, especially for boys, is shorter than in any other portion of the Union. Remember, also, the comparatively small number of these children and youth who are gathered in graded schools in villages and cities, and that even in the North the discussion of methods of industrial training for country district schools is just beginning. But nine-tenths of the children of the South are still educated in the country, and they are in greatest need of all that can be done in this direction. And when we consider the small number of teachers, anywhere, who are competent to handle this department of instruction, the problem seems, at first, discouraging. It is profoundly discouraging to that class of narrow school-men and uncompromising educational reformers who would impose an infallible "scientific plan" upon every community, and "hew to the line" in every sort of school. Scientific every method should be, in the broad sense that nothing should be taught which is not in accordance with the natural order of development in child-nature and adjusted to the actual condition of the community. And the problem will not be hopeless if the friends of the movement will have the wisdom to "search and try" the present system of schooling with a view to discover its merits rather than expose its defects, and will be content to work in the gradual way that nurses every vital spot, takes advantage of every local peculiarity, and never forgets that the basis of all special training is a good common school education, with the moral discipline that is always more than "half the battle." For mental incapacity and moral incom-

petency are now, as ever, the open pits into which a large part of human endeavor, in all varieties of work, falls in hopeless confusion, panic, and wreck.

When we attempt to seize upon the vital spots in the educational life of the South for the grafting of the industrial element, we naturally turn to those schools, already mentioned, which are in a condition to handle the methods and develop the spirit without which the industrial feature will only become a new burden to the scholar. How, then, can the graded public and the numerous academical schools be utilized for this end? Already we find the beginnings of industrial training in a growing number of the free graded schools for both races. The graded school is now well established in almost every city of the first class in the South, and is steadily taking possession of towns of 2,000 people and upwards, although large numbers of these have not yet come into this organization. Wherever a competent superintendent of the system has been found, these graded schools have availed themselves, at once, of the best modern methods of organization, instruction, and discipline, and differ in no essential respect from the better class of city schools in all parts of the country. Indeed, in some respects they are favored in the enthusiasm with which a community takes hold of a new enterprise; the vital interest of parents in the school life of their children; the power and responsibility given to the superintendent, both in administration and the training of his subordinate teachers; and the presence of a class of pupils drawn from the superior families of the surrounding country. Already industrial drawing has been introduced in a portion of these schools. The gymnastic training and semi-military drill, so popular in them all, is, in itself, a good preparation for hand-work. There is a strong current of public opinion in all these communities in favor of a further advance in this direction, and many excellent people who either oppose or remain incredulous concerning the public school movement would be reconciled by the introduction of this feature. This is especially the case in regard to the public schools for colored children, and it is fortunate that the industrial training which many thousand of their teachers have already received in the schools before mentioned has prepared them to meet this demand. In fact, this sort of instruction, in the country districts, is almost entirely confined to the schools for colored children, and there is a good deal of it in an irregular way in all parts of the country.

It is easily seen that here, in public graded schools of the better sort, the way is open for a favorable beginning of industrial training. It is advisable that the basis should be laid in the primary departments, in the intelligent use of those natural methods of instruction in all branches that are the best preparation for hand-work higher up. If the friends of the kindergarten would heartily join hands with the primary department of the new graded school, in order that it might be enriched by the adoption of such elements as can be made effective, a great deal could

be done by modelling, elementary drawing, paper-folding, the study of geometric forms, and all the beautiful devices by which a child learns to concentrate his activity on the creative instead of the destructive side of life, to lay the foundations of industrial education in the earliest years. At the fit age, sewing and such features of household economy as can be taught through the "Kitchen Garden" would be a relief to the monotony of study, and of great use to girls, while the boys could be preparing for other exercises. In the higher grammar school grades, classes could be formed for manual training, cooking, etc., in which such pupils as desire it can receive a few hours of instruction from a skilled teacher every week, with no interruption to a reasonable course of general study. The pupils electing such a course would naturally be stimulated and often do better work all round. The writer is not yet convinced that industrial training of this grade should be at first made compulsory, or that the visionary notion of turning out a school-boy, at fourteen, able to earn a living by a trade is other than a delusion. If industrial training is to be a success in the public school, it must come in as the natural outgrowth of a general scheme of instruction, and its more exacting features be left as an elective in the higher elementary and secondary departments. For, while children usually enter upon any new thing in school with spirit, the premature imposition of hand-work as a part of the daily routine would become as monotonous and distasteful as any study of the course. It has been observed, however, that where these varieties of hand-work have been placed in an elective department and skilled teachers employed, the pupils electing are by no means confined to what is called the "working classes;" in fact, the value of such exercises is often most keenly felt by families of the highest culture, social standing, and wealth. It is important that, in this movement in the South, we steer clear of that narrow idea which would make the common school, like the English public school, an arrangement for the "working classes," with neither the patronage nor cordial sympathy of the more favored portion of society in its support. The American common school can neither be made an "annex" to any ecclesiastical establishment, or a low grade, semi-industrial seminary for special classes of children, without a change in its ideal and methods which would forfeit the esteem and finally the pecuniary support of the American people.

Large numbers of Southern youth are still, and must long continue to be, educated in the academies, private and denominational, that are found in every locality. It will be many years before the free high-school system can be largely developed in these States, owing to scattered population and the small number of considerable towns in a condition to incur the additional expense. These academical schools for both sexes of white students are generally crowded with pupils, and to them we must look for hearty co-operation in the work of industrial education. And already a favorable opening appears in what is called the "art department," which is found in every Southern school

of any pretensions for girls. In some of them visited by the writer, this department appears to usurp an undue share of attention, and, with music, to be in the way of the training of pupils in a solid English education. Only in a few of these schools has the writer noticed any serious attempt at anything beyond the ordinary instruction which looks towards artistic development, although painting on china and ornamental needle-work are gaining ground. In the latter accomplishment our Southern women already excel, as the beautiful display at the New Orleans Exposition demonstrated. In the few cases where free-hand and industrial drawing have been seriously taken up and worked in the direction of design and decorative art, most gratifying results have been obtained. Many of the teachers of this department in these schools have been educated in the best seminaries of the country, and would be competent to inaugurate a thorough system of this sort by the most approved methods.

If the multitude of bright young girls who throng these schools could be impressed with the idea of the outcome of this new departure, contrasted with that of the regulation "drawing and painting," they would take to it with enthusiasm. In the one case, the daughter, after laborious months or years, takes home a few "paintings" of the ordinary girl-graduate type of excellence. They hang in the best room until she has visited a great picture gallery and seen a few genuine works of art, when they quietly "steal away" to the less public rooms of the house, and probably, a few years later, ascend the attic stairs. In the other line of instruction, the girl goes forth with a trained hand and eye, already interested in design and with a love for decorative art which naturally goes out into the habit of ornamentation, in the numberless ways which brighten and beautify the home. One of the happiest results of the wide diffusion of taste and skill in industrial drawing and design in the States where it has had a fair trial is this charming transformation, even of the humblest interiors, by the numberless devices which the daughter possesses for making the house beautiful by home effort. The misery of our growing expensive and showy style of family life is the notion that only money can buy this side of social enjoyment, with the consequent greed for money-making as a necessity of handsome living. To thousands of our Southern girls this knack of the hand, which would enable them to work a transformation in the old house and bring a new reign of beauty and convenience in-doors, would be one of the most valuable elements of a woman's education. There is no reason why, in the same class of schools, a department for lessons in dress-making, telegraphy, book-keeping, the use of the sewing-machine, and other industries could not be introduced with great profit to many of the students and an addition to the attractions of the institution.

Skilled house-keeping has now become one of the finest of the fine arts, requiring a knowledge of science, physics, and economics, and an executive ability superior to the old time requirements for the "precep-

tress" of a "female seminary." That American girl, in any station of life, who is not prepared, either in her husband's or her father's house, to assume the responsibility in that sphere of home-making wherein is "the hiding-place of the power" for woman in every age and land and every social state, is emphatically one of the "foolish virgins" that goes out to meet the bridegroom without oil in her lamp. That seminary for girls which will resolutely step out in this new departure and establish a thorough course of study in skilled house-keeping and home-making which will send forth a graduate able to make a good home in a cottage with \$500 or a palace with \$10,000 a year, will certainly win the patronage of the most sensible people and confer an inestimable blessing on the womanhood of the South.

The example of the Mississippi Industrial College for girls can not fail to move other States of the South in the building up of similar institutions. This State owes this establishment to the intelligent zeal of a few women. In many of the counties local associations for student aid have been formed, which enable worthy young women to obtain its advantages. There is no reason why local associations for the encouragement of industrial training, in all the colleges and secondary schools of the South, should not be formed to disseminate intelligence, raise funds, aid needy students, and, generally, co-operate with the educational faculty in the establishment of the industrial as a vital department of academical work. One of the most serious drawbacks in the educational life of the South is the lack of hearty co-operation in the outside public. The old-time habit of a highly pronounced individuality, so indispensable to efficient manhood or womanhood, may be exaggerated till it becomes a positive hinderance to educational progress. There are thousands of communities in the South, with ample material for good educational work, which still remain in an unsatisfactory condition because the people who really desire better things have not learned to work together and use their resources of all kinds for the common good. Here is a direction in which the aspiring young women of these communities may confer untold blessings on the people, by associating themselves in organizations for the advancement of industrial training both in the public and academic schools. They will be astonished to learn how deeply the thinking people are interested in this movement, and with what a heartfelt welcome their efforts will be received by all men whose friendship and approval it is good to enjoy. The same, in substance, may be said of the various schools of every grade for the education of boys. No feature of the new Tulane University at New Orleans has been received with more signal favor by the superior people whose sons are its students than the manual training, compulsory through the preparatory to the sophomore college year. The same experiment would meet with similar success everywhere. The teachers for such studies could be supplied from New Orleans, St. Louis, Baltimore, and other cities in the South; while a score of institutions for

the higher training of colored youth can supply young men or women able to organize and supervise this most essential feature of every school for colored children in these States.

The pivotal point in the industrial as in every department of Southern education is the training of competent teachers. A limited number of city schools can afford to employ experts at superior wages to deal with this department, although in the most favored metropolitan centres of the North the tendency is constantly in the direction of placing everything to be taught to young children in charge of the regular room teacher of the graded school. But half the children north and nine-tenths the pupils south of the Ohio and Potomac Rivers are found in country district schools, where the one teacher is supreme, and it is idle to talk of introducing anything into the school life of the Southern States that can not be handled by the regular teachers. In this respect the South, in spite of many disadvantages, is in this peculiar situation: that *nowhere* can an able man or woman, in a country school-house, become such a power, not only among the children, but in the advancement of the whole community. We have already called attention to the great and beneficent influence of thousands of the colored graduates of their superior schools over the masses of their race as teachers and general missionaries in all good works. But this opportunity is common in all schools under the charge of one or two teachers. One of the most hopeful features in Southern school-keeping is the large number of young women, from the more intelligent and often the leading families, now engaged in teaching, not only in city but in country district schools. No one unacquainted with the peculiar constitution of Southern society can appreciate the influence exerted by the competent and devoted daughter of a well-known county family as a teacher in her home district or in the neighboring county town—an influence broader, more profound and far-reaching, than can proceed from social superiority alone. For, while social distinctions so often separate the community into rival classes and breed the most painful estrangements, the good girl in the public school-house brings all her superiorities of culture, position, and accomplishment to bear on the children of every order, condition, class, and race. The writer, in an eight years' observation of Southern school-keeping, has seen hundreds of ladies of the most distinguished Southern families thus engaged; in fact, school-keeping is as common an occupation for the superior young women of many of these States as in New England fifty years ago. The efforts of multitudes of these young women to obtain the education and professional training for their work are often the most pathetic and inspiring spectacle in the present development of society in these States.

Another favorable point in all the public school-keeping of the South, but especially in the country schools, is its intimate connection with the family and the church. Nowhere in our country is the old time idea of family life so powerful as there; and the church still holds a

vital relation to the people of both races. The inevitable tendency of all schooling in populous regions, where life goes fast and nobody does what is not just at hand, is the separation of the child from home influences during his most impressible years, while even the church strives in vain to hold its youthful membership outside the brief hour of the Sunday-school. But amid the comparatively scattered populations and quiet life where the vast majority of Southern children are growing up, the home, church, and community touch more closely upon and blend more intimately with the school. While, doubtless, in the case of illiterate parents and neighborhoods, this is an additional burden to the teacher, yet her compensation is found in the fact that often, in a very real sense, the whole community becomes her school. The good teacher thus becomes the man or woman of all work in the upper story of social affairs, and finds a constant demand, outside the school-room, for every description of work, suggestion, direction, and uplifting influence. All this is favorable to the introduction of industrial instruction, whenever the teacher has the competence, character, working power, and tact to command the situation. And if the situation prevents the application of the cut-and-dried methods of the city technical schools, it does furnish the opportunity for the more natural and often more effective ways which take hold on the entire life of the child, making connection at vital points and swinging a whole community off into a great enthusiasm for a good new thing.

For this training of the mass of teachers we must look, of course, to the superior schools of the South. We have already shown that almost the entire body of secondary and collegiate institutions for colored youth are doing this with a fair amount of success. The Slater Fund, so wisely administered by its agent, Dr. Atticus Haygood, of Georgia, has greatly stimulated this movement in this class of seminaries. Almost every Southern State now supports a system of normal schools and institutes for the training of teachers of both races, and the Peabody Educational Fund expends its entire income for this purpose in a dozen of these States. At the earliest opportunity every State normal school for white teachers, and every State university that attempts pedagogical work, should be furnished with a vigorous department for training its graduates in the simpler forms of industrial instruction demanded in common schools. This instruction is indeed a vital part of elementary work in all schools now up with the times, and includes the elements of free-hand drawing, study of geometric forms, paper-folding, clay-moulding, and a great variety of exercises for the training of the eye and hand with the whole range of natural and object teaching. This develops into design, work in wood, instruction in house management and sewing, and can be indefinitely extended in the direction of any one of the two hundred ways which are now open to the skilled American woman for honorable pecuniary self-support. The graduate from these normal academical or collegiate schools who goes forth thus

armed and equipped becomes one of the most valuable professional persons in any community fortunate enough to secure this class of teaching service in its school-rooms. In the long summer institutes for teachers now held in all these States, it would be easy to furnish a course of practical instruction which, in connection with subsequent reading, would enable large numbers, even of country teachers, to begin the good work with a reasonable hope of success. The experience with this experiment at the Monteagle, Tenn., and De Funiak Springs, Fla., Chautauqua assemblies shows the great desire of numbers of teachers to avail themselves of this opportunity for industrial instruction.

The chief obstacle to this arrangement is doubtless the additional expense for schools already at their wits' ends to meet the demand for what they now attempt. Without more money, but little more can be expected of Southern education; for there is no large number of people doing so much good work for so little pay, and under such manifold discouragements, as the better class of teachers in all kinds of Southern schools. The great success attending the Peabody and Slater Funds suggests that nowhere would one of the million dollar gifts that are flying about the country be more truly a benefaction than placed in the hands of either of these boards of trustees, with a view to the training of teachers for the inauguration of the industrial movement in Southern education. The South itself has made a splendid beginning in the way of educational endowments, from its own limited class of wealthy people, and the attention of prosperous men of Southern birth should be at once directed to this movement for industrial instruction. An increasing number of wealthy men of Southern origin are now found in all the great cities and centres of financial importance in the North, and our Southern school-men should get on their track and urge the claims of the home-keeping people to their liberal contributions for such objects. One of the most beautiful features of society in the older Northern States is the habit of wealthy men and women, in the great cities, giving generous sums to their native towns, for libraries, schools, and benevolent institutions. In no way could the honorable State pride of the Southern millionaire, living in New York, Chicago, or the Northwest, be more honorably displayed than in establishing, in his native locality, one of those "institutes" which combine a library, reading-room, lecture-hall, and class-rooms for industrial instruction, both of the ordinary and artistic varieties.

Then let the industrial work, especially in country schools, be undertaken in the natural way, with less regard to rigid methods than to the actual opportunity for taking hold of the community both in and out of the school-room. A great deal can be done as a preparation by the encouragement of the industrial habit of self-help among the children. The golden rule of school discipline is, never aid a child in doing what, by a fair use of his own ability and time, he can do for him-

self. Apart from the great value of this precept in the proper work of instruction, it has a special application in that whole region of miscellaneous work belonging to the daily going on of the school. There is no reason why the teacher should be the head-servant of fifty children who, by skilful grouping and cheerful encouragement, could be made to do everything connected with the manual labor, arrangement, and ornamentation of the school-house and grounds. Now and then the writer in his journeyings has come upon a school-house which, through the industrial tact of a bright school-mistress, has been changed from an unsightly blot on the landscape to the most attractive spot in the region round about; all to the great advantage and delight of the pupils and to the pride and encouragement of the parents. There is no reason why, over wide districts of the country, the people, both colored and white, should not build school-houses as comfortable as the average dwelling, by combining to furnish material and work, leaving the scanty public funds to be used for the actual work of instruction. There is no agency more efficient for good in all progressive industrial ways than a wide-awake country school, where a thoroughly furnished and popular teacher marshals his little army, makes the school-house the centre of a new mental, social, and patriotic life, and himself the leader in many things that all friendly people desire to know. "Where there is a will there is a way;" and it is not half so difficult as it appears to bring a country district into the most enthusiastic condition of mind, where all who love God and man can be made to "work together for good." The society for village improvement, the agricultural club, and all the machinery for the promotion of industrial, social, and moral reform, can be made to centre upon this, the best associate of the churches in the blessed work of the practical regeneration of the daily lives of the people. Nobody can estimate the force of such an example in communities in the condition of the rural South; and if there is a nobler calling for the noblest woman and man than thus to become a missionary-of-all-work for all sorts and conditions of folk, we are unable to name it.

And the more all this industrial work is kept in close connection with the home life of the parents, the better will it be, in itself, and the more effective as a mental and moral discipline of the children. With all due consideration of the great incapacity of several millions of the American people, in all sections, for the proper industrial training of their children at home, we are convinced that any system of such instruction which leads these incompetent families to shirk their own plain duty and cast upon the schools this great burden, will be a disastrous mistake. Especially in the industrial department, where the home should be the centre of discipline in the spirit of labor and training in common things, there should be nothing in the school-house to give the impression that this defect is excusable. Thus, every step in this direction should be taken after full consultation with the more influential people and combined with some effort to wake up the shiftless, ignorant, and vicious class

to a desire for instruction and a co-operation with the school. The Southern people like nothing better than a good talk, and no better service could be done by the professional classes, the talking young men, or public-spirited women of a community, than familiar neighborhood lectures, covering the whole ground of education, with special application to the matter here discussed. It would not be impossible to secure the aid of the most skilful people in the various occupations to co-operate with the lessons in the school-room. The introduction of this feature in the district or village school might not only vitalize what is so often a realm of dulness and despair, but bring the whole community to a fit appreciation of the great work of education. One reason why the average American so often submits to the school tax as a sort of mysterious public necessity and is always open to the raid of every sort of opponent, crank, or grumbler on the educational system, is the fact that the school-house has often no vital connection with the life outside, but is a dismal realm into which the children vanish with reluctance and "come forth" with turbulent "joy and singing," instead of the beautiful crown of society. Of course, the end of school training is manhood and womanhood, of which getting a living is only one part, and that subservient to life. But since we "have the treasure in earthen vessels," we must compass the best ways of caring for material things. And only when the common work of life is glorified by intelligence, character, and elevation of soul and purpose, is its relation to time and eternity well understood. Hence, everything that shows to the parents the relation of their children's schooling to their honorable success in life is good, and binds together old and young in sweet and helpful accord.

A good deal of the zeal and physical vim now expended, in some quarters, in military and athletic exercises for boys might well be diverted to manual training that would be of inestimable benefit through life, to say nothing of the public demoralization represented in the great newspaper columns of "Sports and Pastimes." Especially should a Southern farmer be a "man-of-all-work," and his success will often depend on his ability to instruct his ignorant laborers. George Washington thought it no let-down of dignity to spend a whole day in initiating a farm hand in some new operation suggested by the last letter from the great English agriculturist, Arthur Young, and the graduates of Southern colleges, the majority of whom may be to some extent land holders, will find even a moderate outfit of farm lore or handicraft a blessed deliverance from the most intolerable slavery on earth—the bondage of a landed proprietor to the whims, obstinate ignorance, and destructive wastefulness of a crowd of unskilled laborers. It is not necessary that men of substance, disposed to give, should wait until they are able to establish a special institution. The few thousand, sometimes the few hundred, dollars that will pay a salary and establish a "plant" in a vigorous academical or collegiate school for either sex, may bear fruit in the waking up of a whole region of country to better

methods on the land, in the shop, and at the home. Whatever may be the issue of the Congressional deliberation on national aid for education, nobody could well object if the sporadic habit of giving away valuable public property and lands to special institutions which now prevails were changed to a general additional gift to the agricultural and mechanical colleges, which would enable them to enter in dead earnest upon the work of training teachers for the new departure of Industrial Education.

Nowhere in Southern life is there such imperative need of industrial training as in the department of household service. Bad enough in the North, its Southern aspect, outside the favored circles of wealth, is well-nigh unendurable. No large body of good women are now keeping house, anywhere in Christendom, under such provocations, hindrances, and exasperations, as our sisters of the South-land. And nowhere, in this or any country with a well-developed system of household service, could home life be made so easy, so charming, so wholesome, at such moderate expense. With such advantages of climate, semi-tropical fertility of soil, luxuriance of foliage and flowers, and cheapness of material, there should be no desperate poverty through that bounteous realm, and all, from the humblest to the most favored, should find a good home life the easy reward of toil. But, at present, this is everywhere hindered by the lack of intelligent, trained, and docile service, with such wear and tear of physical health and weariness of soul as only the faithful woman can understand. The experts tell us that half the food material of the whole country is wasted in the kitchen—enough to feed all the hungry people in the land. No one but the sanitary expert knows the diabolism of bad food and bad housing, not only in their results equal to the horrors of the drink-curse, but often the cause of the morbid bodily conditions that can only be appeased by the waters of Hell. Under the old dispensation the plantation was often a good school of house-keeping, according to the best ideals and habits of life which then prevailed.¹ To-day, the only school of the colored maid-of-all-work is her

¹ An editorial in the Montgomery (Ala.) Advertiser on the servant question, published January 9, 1888, was commented upon as follows by the New York Evening Post:

“The domestic servant problem is becoming as serious in the South as in the North. For some years after the War many families escaped trouble because they retained as free laborers in the kitchen and the laundry those who had formerly been in the house as slaves and were attached to the interests of their employers. But this old generation is fast passing away, and the new one is of a very different sort. Indeed, not a few Southern people complain that they have more difficulty in getting along with colored women than Northern housewives have with white women. That the difficulty has become serious will be readily believed when it is known that many Southern people are talking of importing white servants for the household from the North, because they think they can get along better with such new-comers than they do with the negroes of the neighborhood. The Montgomery (Ala.) Advertiser says, ‘a good deal of discussion is going on among the heads of families in Montgomery on the subject of white domestic servants, and the best method of procuring them is a live question.’”

own family, often the abode of disorder and very rarely a place where the daughters can be trained for good service in an average home. But the Southern people are entering upon a career of prosperity, and Southern taste and aspiration will be satisfied with nothing less than the best things in home life. There is no probability that household service will pass out of the exclusive dominion of the colored people, and no people are better adapted for the finest training in this respect than they. While the American mistress of the household is so often, herself, a novice in the difficult region of home-making, the prospect is not brilliant for the speedy relief of the Southern sisterhood. But while the foreign servant class of the North abhors the country and swarms in the towns, the South has abundant material everywhere for good service. It only needs a systematic effort to establish a department of skilled house-keeping in the schools, with outside training to overcome this difficulty. Many of the colleges of these people have now a model home, where their pupils are instructed by competent teachers, and they carry to their own family life better methods and ideas of living. This instruction would largely overcome the distaste for house-service, which is generally the result of ignorance, and unwillingness to face the difficulties of learning a new thing, too often in a house where mistress and maid need schooling in the elements of domestic work. Intelligence, skill, good wages, and the respect that always attends expert and faithful service, will lighten this dark cloud that now broods over the home life of the South. In no way can the young women of these States confer a greater blessing on their section than by a wide-spread and hearty effort to inaugurate a general scheme for the instruction of the class that, for a generation, probably for all time, will furnish the workers in this department of Southern life.

A very important consideration in the new industrial life of the South is the fit training of the operative class in the new manufacturing centres of these States. At present, the cotton mills seem to be largely supplied from the poorer class of the native white population, while the colored people are found in the tobacco, iron, and most of the mechanical industries, working, according to report, with fair success. As the manufacturing interest increases, the class of native white operatives will probably be insufficient, and the problem of training the colored people will be encountered. There is no doubt expressed by those who have most to do with the industrial schooling of these people that in them the South has a most valuable material for its growing operative class, and that, with proper effort, they can be fitted to do the work for which the North is compelled to depend on the constant importation of the more ignorant and undisciplined people from Europe. Along with this goes the rare opportunity offered to the corporations of making every manufacturing centre also an educational centre for the people brought in by the demand for operative labor. Nowhere is it easier for such a corporation to take into consideration the social, mental, and

moral needs of its employes, and build up around its establishmen at community that will become a model of its kind. At Graniteville, S. C., Anniston, Ala., and the populous suburbs of Columbus, Ga., the writer has seen this, the most effective missionary work, well done with the white operatives of the mills. It only remains to put a check on the growing evil of child-labor, with which the great manufacturing States of the North are now dealing, to rescue the children of elementary school age, under fourteen, from the burden of overwork and give them that boon of public training which the country owes to every American child. It is gratifying to note that the leading manufacturing localities of the South are generally the leading school centres, and that a large town of this sort, properly managed, is of equal value for its product of good citizenship and salable goods. Here and at the railroad repair and manufacturing points is found a capital opportunity of putting industrial instruction of the manual training sort into the new common schools. In this way each of these neighborhoods would become a school of skilled labor, and the expense incurred would be the most profitable investment for the manufacturer, no less than a great uplift to the people. There would seem to be no reason why a country as favored as the South should be compelled to add to its other difficulties the growth of great manufacturing cities, crowded with ignorant, vicious, and restless working folk; and the bitter experience of the European and some of our American States in this respect may well be used as a warning. Nothing pays in modern industry like intelligence, character, skill, temperance, and economy in the mass of workmen of every class, and this reform would bring the labor troubles to a peaceful and beneficent issue in every part of the country. Whatever may be thought of the methods of dealing with the drink-curse, all good men must rejoice at the remarkable growth of the temperance movement, especially in those parts of the South where free liquor means the destruction of free labor. The splendid crusade of Southern women in behalf of the moral purification of society deserves all the praise it receives, and adds a new laurel to the crown of Southern womanhood.

In fact, no portion of the Southern people is more directly interested in the question of the Industrial Education of the masses than the young women, of both races. One of the most affecting spectacles in Southern society is the manner in which the great majority of the elderly women of the South, who were the greatest sufferers by the War, have accepted the situation, adjusted themselves to circumstances, and, in numberless instances, developed an energy, ability, and tact in various lines of occupation that have not only brought material success, but revealed rare qualities of character and mind. To them the problem has been to face life with courage and dignity, take what was offered, and work at "what their hands found to do with all their might." But a far different and broader problem is offered to their daughters, indeed to the entire young womanhood of the South which has come forward in the

generation since 1860. We do not write for the small class that here, as in every section of our country, is using the opportunity of wealth and culture to turn away from labor and find the most laborious of all occupations in the pursuit of social excitement and the reckless imitation of the follies of the fashionable caste abroad. We speak of the young women of the South among whom we have been living for the past eight years, with unusual opportunities for observation of their outlook upon the future. The result of this observation is the conviction that the future of these young women, more than of any similar class in our country, is bound up with this great question of Industrial Education.

The Southern people themselves are hardly aware how rapidly the younger women of their States are coming forward in all modern ways of influence and occupation. The steady drain of superior and active young men from the rural districts to the cities and the growing North and Southwest is already leaving large districts of the country dependent on the women, left behind, for the whole upper-story work of Southern life. As in New England, so now in several of the older of these States, the community is looking, more and more, to its rising young womanhood, not only for the due ordering of the home, but also for the practical management of the school; the philanthropic, charitable, educational, and missionary work of the church; and the almost absolute direction of social affairs. To answer this demand there must be a great enlargement of opportunity for honorable self-support. Within the past twenty-five years the women of New England have led the North in the development of a great number of industries and opened numerous paths of profitable occupation to the sex. It is said that there are now two hundred ways by which a woman can get a respectable living in this country, and the scandal of the sewing-girl department is chiefly one of the melancholy fruits of that miseducation which drives thousands of women away from intelligent domestic service to the horrors of "independence" in a city attic and the temptations of an over-crowded labor market. The Southern situation has its own peculiarities, from the presence of a race whose previous condition has been that of service on the land and in the household. The growing intelligence of multitudes of young colored women, who must still depend for honorable support and virtuous lives upon labor in the household and the lighter forms of agricultural, mechanical, and operative work, calls aloud for industrial training. It is not education, but miseducation, that disqualifies the daughters of the freedmen for the duties of life—the same wretched delusion that everywhere associates mental culture with laziness and indifference to the common duties of a woman's lot. It is foolish to rail at or go into despair over the present transition period in the training of the masses of colored girls. The wise and Christian thing to do is to grapple with the situation, and by a broad and vigorous system of industrial training prepare them to fill with honor, profit, and happiness, the life

that opens before them with promise so inviting to every true woman of their race. Nowhere in Christendom is there now such opportunity for a great missionary movement on the practical side of religion as is offered to the Christian people of the South in the marriage of the industrial with the mental, moral, and spiritual side of that education which is the great lever for the uplifting of every class in similar condition.

But there is left enough of this industrial outlook to meet the desire and supply the need of the thousands of young women of the white race whose future depends on their ability to earn an honest living, and whose happiness, in any estate, is bound up with that knowledge, skill, and executive energy which will enable them to meet the demands of southern society. A great deal of education in skilled house-keeping and the economies of domestic life; that general acquaintance with affairs which gives to the mother or the elder sister in the home such power in training children and managing the details of family life; instruction on all those lines of occupation which are now more and more thronged with women workers,—here is a call for the organization or the industrial movement which can not safely be ignored. While it is true that many of these occupations depend upon a wealthy community for a market, it is also true that there is a growing demand in the South for articles of use and ornament, enough to justify immediate attention to this source of supply. Many of the varieties of gardening and fruit culture are now attracting the attention of women. It is difficult to see why crowds of bright, capable, and industrious girls, in a city like New Orleans, should be living on the edge of discomfort, while their own city sends thousands of dollars away, every year, to Paris or New York for articles that could be as well furnished at home. The formation of industrial and art societies by the women of several of the larger cities is a move in the right direction. Every neighborhood would do well to fall in with this movement and establish a woman's industrial organization; first, for inquiry and information, and, at fit time, for the encouragement of efforts to introduce some new occupation for the sex. There is no danger that American men will be crowded out of any industrial position where masculine ability is proved to be a decided element of superiority. Neither will our daughters become less womanly, attractive, and adapted to the enlarging sphere of American womanhood by responding to the call of their country in the industrial realm of life.

The present need of increased funds for the establishment of industrial training, as outlined in this essay, is a subject of grave consideration for that large class of people in the Northern States who, for the past twenty-five years, have contributed so generously to the schooling of the coming generation in the South. With all due allowance for inevitable misappropriation and misuse of money in a field so wide and imperfectly known, this gift, of probably more than twenty-

five millions of dollars, has been a benefaction and is thoroughly appreciated by all who are competent to judge. But the time has come when the importunities of the cloud of solicitors for such contributions must no longer blind the eyes of sensible people to the real necessities of the case. The three points where northern educational gifts can do the most good in the South are: 1st, the endowment of such colleges and academies as have proved themselves indispensable in the secondary and higher education; 2d, the aid of the Normal and Institute system, that is now struggling with the stupendous task of training teachers; and 3d, the judicious beginning of the industrial department in the ways indicated in this monograph. Our wealthy and charitable men and women are sometimes quite too careless and credulous in dispensing their bounty for education. Within the past few years several millions of dollars have been given, to establish new colleges or further schemes of doubtful expediency, in communities now overburdened with educational facilities,—money enough, with wise administration, to inaugurate a working scheme of industrial training through half a dozen States of the South. Our country needs one more school,—a school for the instruction of rich people in the science of Christian giving. Our new industrial associations in the North can do nothing better than inform themselves of the best opportunities for furthering this great enterprise in southern localities. A generous plant for a thorough school of manual training in connection with the public school system of cities like Birmingham, Selma, Atlanta, Decatur, Anniston, Chattanooga, Knoxville, Columbus, Rome, and Augusta, with others of less prominence, would be such a contribution to the public welfare as any wealthy man would be proud to remember, and link his name with a rising town destined hereafter to become one of the great cities of the southern country.

We dismiss, as unworthy of consideration, the notion that such giving or receiving will, in any way, compromise a just self-respect or work a demoralization of self-help. *No American community was ever yet demoralized by judicious private, State, or national aid for Education.* From the first day of our national existence to the present hour, Uncle Sam has been occupied in transferring the people's school money from one huge pocket to another, and every section that has received has been stimulated to greater home effort and, in turn, found itself in the attitude of passing on the gift to those beyond. The southern educational pocket is now the place where the whole people of the United States, in ways most judicious, are called, by every consideration of justice and Christian patriotism, to deposit their surplus, for the schooling of the six millions of southern children and youth. It will be a dark day for the Republic when cities, States, and sections draw off, either with a sense of satisfaction at their own fortunate condition, or a false pride in receiving. Certainly, the teaching fraternity of the country has no such view of the educational situation; for no five hundred

thousand people in the Union are now working together in greater harmony and with a more intelligent appreciation of each other than they. To them must we still look in the building up of the Industrial Education, so important to the material and social welfare of these sixteen States.

In conclusion, the writer of this essay, in justice to himself and his subject, would repeat his opening statement,—that his intention is not to discuss methods or to trench on the proper sphere of the expert in the general consideration of Industrial Education. He has not raised the disputed question, whether industrial training has any place in public schools beyond its use as a new device for the general development of mental power, or should have any conscious purpose of a proper industrial sort. The main object in view has been to set before his readers in the South a few broad reasons for the establishment of this department in the various grades of schools. He has availed himself of his own personal observation to suggest practical ways in which this work may be let in to the present educational movement. He has spoken frankly and strongly of what appear to him most imperious needs, and urged the consideration of the work nearest at hand. The all-pervading need of the South is the thorough instruction of several millions of its laboring class, of both races, in the elements of knowledge, discipline of mind, and that skill of the hand and industrial capacity that always and everywhere are the outcome of a well-administered American common school. The author of these pages will be well repaid for his effort if others more competent, especially among the younger rising schoolmen of the South, are moved to an accurate and zealous study of the special departments of a field so vast and inviting. To them and the educational public, always so ready to respond to the spirit of his former essays on Southern education, this monograph is commended.

APPENDIXES.

I.

STATEMENTS RESPECTING LEADING SOUTHERN EDUCATIONAL INSTITUTIONS WHICH HAVE INTRODUCED INDUSTRIAL TRAINING.

The following statements have been prepared in the main from replies to a circular letter addressed by the Bureau of Education to the principals and presidents of various representative Southern institutions which make a prominent feature of industrial training, and which have tested the various departments thereof. Each presiding officer addressed was requested to give a brief description of the course of industrial training adopted at the institution under his charge, and to state the most important conclusions at which he had arrived as the result of his personal experience in the special class of industrial training in which he was engaged. The design of the Bureau has been to give direction to this important movement by the publication of these statements in connection with the essay of Dr. Mayo.

AGRICULTURAL AND MECHANICAL COLLEGE OF MISSISSIPPI.

Agricultural College, Miss.

[Compiled from statement of President S. D. Lee, Report of Board of Trustees, and Catalogue.]

This institution received one half of the United States agricultural college land-grant fund, the other half going to Alcorn University, for colored youth.

The studies and teachings of the college have been kept in harmony with the objects for which it was established; the institution has not been permitted to drift into a virtually literary school, but the agricultural feature has been maintained as of paramount importance. The board of trustees recognized the fact that the main and essential business of the people of Mississippi was, and will continue for years to come, to be, agriculture, and determined to make the funds of the college subservient to the interests of that industry. Under their management the college has become "a great success—as successful, if not more so, than any similar institution in the Union." In 1887 as many students were turned away, for want of room to lodge them, as there were received.

Although the college is open to all, yet the son of no rich man attends. The pupils are either wholly destitute of means, or are the sons of farmers of very limited resources. It is emphatically a school for the poor, and it is the intention of the trustees to make it subserve their interests. Distinctions in dress are prohibited, each pupil being clad in a cheap uniform, and no other dress, except a working suit, is allowed to be worn within five miles of the college.

The college is not, in the strictest sense, either literary, classical, or military, but rather designed to "give the industrial classes a general education, combined with

such scientific and practical knowledge as will make them familiar with the nature of the objects and forces with which they have to deal."

The instruction given in the way of education in the academic and scientific departments is held to be of the highest importance, and nothing takes precedence over it. The industrial features come next, and with them is joined the assistance which a student, by his work, can obtain pecuniarily. It differs from the old "manual labor school," where the important matter was to work enough to pay all expenses; the education received was of secondary consideration, compared with earning enough money to pay one's way. A boy can not work his way through college by his labor and also get a first-class education. If he labors most of his time he is too tired, physically, to accomplish much in his studies, whereas moderate labor facilitates study. The pupils of this institution have an opportunity to work, and may earn enough to pay for one-half, or more, of their board.

The industrial training is purely agricultural and horticultural; means have been lacking to introduce the mechanical feature, agriculture being considered the most urgent.¹ All students living in the dormitory are required to labor three hours daily for five days in the week (the weather permitting). This is arranged, as far as practicable, in illustration of studies and lectures. The Junior class generally work in the garden, orchards, and on the grounds; the Sophomore class on the farm; the Senior and Freshman classes in farm or garden, or where their studies indicate. As regards the methods pursued, General Lee writes: "Field work is made supplemental to class-room instruction, and *vice versa*, as far as possible, not only in the agricultural and horticultural departments, but throughout the entire course. In chemistry, biology, and even in the English department, students are required to select topics for their essays that treat of work in the farm and garden and in applied science. The attention of the student is constantly directed towards industrial life."

"In practical instruction students are taught to care for stock, trained in the use of implements, in different methods of cultivation of field, garden, and fruit crops, in the care of milk, making and packing butter, etc. This work is carried far enough to enable many of our students to secure and hold positions as managers of farms, creameries, stock farms, and the like."

The large number of students in attendance each year shows that the college supplies a necessity to the people of the State in giving a thoroughly practical education to its youth. The correct idea, where boys are to be educated for farm life, is to combine labor with theoretical instruction. Study for four years without the habit of manual labor creates a disinclination for work, and tends to separate brain work and manual labor, to the prejudice of the latter.

The principal is of the opinion that the intimate association of the student with the industrial influence that pervades every branch of the college is of even more value, on the whole, than the technical skill acquired.

The following, from the college catalogue, describes more in detail the system of practical instruction adopted:

DEPARTMENT OF AGRICULTURE.

Instruction in the department of agriculture embraces not only the lectures of the class-room, but the knowledge gained by the student in the regular work of the field, and in an intimate association, during his whole course, with a large and well equipped farm.

The department is under the immediate supervision of the professor of agriculture, which fact affords opportunities to illustrate in actual practice the theories taught in the class-room.

The compulsory student-labor system is made a prominent feature, and is considered educational, not only in teaching the student how to do certain things, but also

¹ The trustees recommend an additional State appropriation for the purpose of introducing mechanical training.

in making him familiar with the various industrial operations of the institution and interested in them.

The college owns 1,762 acres of land, divided into cultivated fields, pastures, orchards, ornamental grounds, etc.

A considerable portion of the farm is cultivated with special reference to providing for the student labor that will be instructive. The larger part of the farm is devoted to the production of commercial products and the general crops of a diversified system of husbandry, including stock-growing and dairying. In somewhat similar colleges, even where student labor is required, it is deemed sufficient to furnish just enough labor to employ the student during a limited part of the course, having simply specimen farms, herds, etc. This college provides for the student not merely experiment work, but a business farm. Instead of specimen crops on a small scale, that the student can only see, he helps to cultivate crops that vary in extent from ten to one hundred and fifty or more acres.

To illustrate the varieties of breeds a herd is provided, enabling the student to become familiar with the work of caring for several hundred animals, as well as to study the peculiarities of the various breeds.

Opportunity is given the student to compare the "theory" of agriculture with the "practice." He soon becomes an interested critic, and is enabled to judge with considerable accuracy as to the value of the principles taught in relation to the art.

At the close of the course in agriculture questions pertaining to the details of the entire work of the farm constitute a part of the regular examinations.

ALABAMA POLYTECHNIC INSTITUTE, A. AND M. COLLEGE.

Auburn, Ala.

President William LeRoy Broun writes that in the three years during which the school of mechanic arts has been in operation "great interest has been manifested in the work by all the students engaged in it. They attend as many recitations and lectures, with six hours a week in mechanic arts, as they did before the school was organized; the general college work is better than formerly, and the good effect on the discipline manifest. Many students willingly work extra time when the opportunity is offered.

"It is regarded as a most valuable part of our educational course, beneficial to a student whatever his vocation may be in after life. It is not simply manual training, it is brain training, character training. Its philosophical basis is the education of the senses, the opening of the 'windows of the soul.' The lessons are all problems in the concrete, and develop system, exactness, and the habit of earnest effort, in using well ordered means to attain the desired end. When this education through laboratories of mechanic arts shall become more widely extended, the results must be of the highest benefits, especially, for obvious reasons, to the Southern States."

EQUIPMENT AND COURSE OF STUDY IN SCHOOL OF MECHANIC ARTS.

[Statement by George H. Bryant, M. E., Instructor.]

The department of mechanic arts at the Alabama Polytechnic Institute was organized in 1885, and during the summer of that year the motive plant for the whole department, and the machinery and equipment for wood-working, were purchased and erected. The former consists of a 25 horse-power Harris-Corliss engine, steam for which is supplied by a 30 horse-power steel horizontal tubular boiler, for which a substantial brick boiler house and chimney were erected. A Deane steam pump for boiler feed and a feed water heater form a part of the steam apparatus.

The wood shop occupies one half of a room 90 by 50 feet (the lower story of one of the college buildings), the other half being taken up by the machine shop. The equip-

ment of the wood shop consists of the following: 20 double wood-working benches, each with complete set of carpenters' tools; 25 turning lathes, 10-inch swing, each with complete set of tools; 1 double circular saw; 1 band saw; 1 board planing machine; 1 buzz planer; 2 scroll saws (power); 1 large pattern-maker's lathe, 16-inch swing; 1 36-inch grindstone. In addition to these the tool room is supplied with a variety of extra hand tools for special work.

During the summer of 1886 a substantial brick building, 72 by 32 feet, one story high, with monitor roof, was built for the forge and foundry departments. This is divided into two rooms, each 35 by 30 feet, each department occupying one room.

The equipment for the foundry consists of moulding benches for 12 students, each supplied with a complete set of moulder's tools; a 14-inch cupola with all modern improvements, capable of melting 1,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucibles, tongs, etc. Also a full supply of ladles, large and small moulding flasks, special tools, etc.

The forge shop equipment consists of 12 hand forges of new pattern, each with set of smith's tools, anvil, etc. The blast for all the forges is supplied by a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a No. 15 Sturtevant exhaust blower draws the smoke from the fires into the smoke flues and forces it out through the chimney. Power for running these blowers is obtained by shafting connection with the main shop.

The machinery and equipment for the machine shop were purchased and erected in 1887. The machine tools in this department are as follows: 6 engine lathes (screw cutting), 14-inch swing, 6-foot bed; 2 engine lathes, 16-inch swing, 1 with taper attachment; 1 speed lathe, 10-inch swing, 4-foot bed; 1 20-inch drill press with power feed; 1 15-inch shaper; 1 22 by 22 inch by 5 foot friction planer; 1 universal milling machine; 1 corundum tool-grinding machine, 14-inch wheel, and 1 bench grinding machine (small).

A part of this shop is set apart for vice work—chipping and filing, and vice-benches for 12 students are provided, each bench with vice and set of files, chisels, hammers, etc. In the tool room is to be found a good supply of machinists' tools for general use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting tools, and special appliances for machine work, etc.

The full course in mechanic arts covers three years, as follows: First year, wood-working—carpentry and turning; second year, forge and foundry work—moulding, casting, and smith work; third year, chipping and filing, and machine work in metals. Shop work is obligatory upon the students of the three lower classes.

The nature of the work in each department is as follows:

First year.—I. A course in carpentry (hand work), covering the first term and part of the second, or about five months. The lessons include instruction on the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, chisel, saw, etc., different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work comprising different kinds of joints used in cabinet making, light cabinet work, examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through part of the second and the whole of the third term. The lessons comprise, first, nature and use of lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plates, and chuck work, hollow and spherical turning.

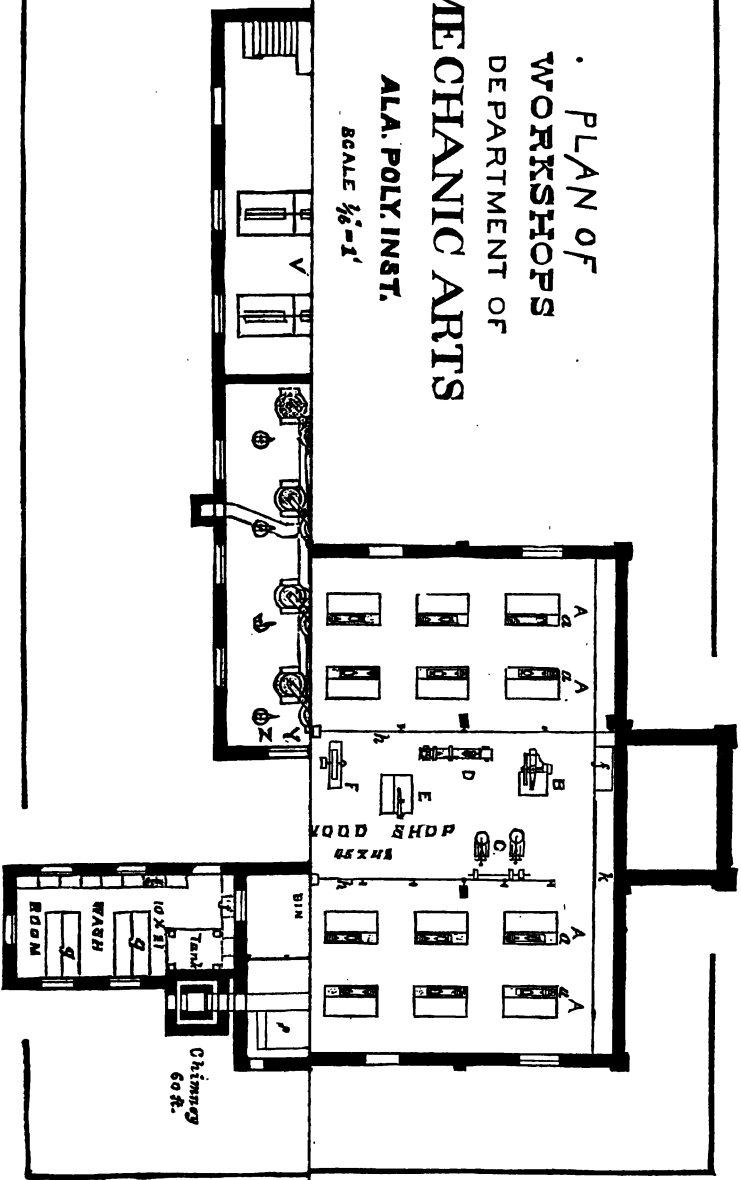
Second year.—I. A course in pattern making, occupying the first six weeks of the first term. The work comprises a variety of examples of whole and split patterns, core work, etc., giving the student practice in forming irregular shapes in wood with the lathe and carving tools, as well as familiarity with the nature and use of patterns for moulding.

II. A course in moulding and casting in iron and brass. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of

PLAN OF WORKSHOPS DEPARTMENT OF MECHANIC ARTS

ALA. POLY. INST.

SCALE $\frac{1}{8}$ " = 1'



forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand, in two-part flasks; core work is also given, and some three-part flask and some dry sand work is introduced. The patterns made by the students during the first term are used, besides special patterns, for occasional larger or more complicated work. Instruction and practice are given in working the cupola, each student in turn taking charge of a melting.

III. A course in forge work in iron and steel. The lessons are arranged so that the students, in making the series of objects, become familiar with the nature of the metals under various conditions, and with the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool-forging, tempering, hardening, etc.

In connection with this second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

Third year.—I. A course in chipping and filing, covering the first term. The lessons include work on cast and wrought iron, chipping to line on flat and curved surfaces, key seating, etc.; filing and finishing to line, straight and curved surface filing and finishing, fitting, slotting, dove-tail work, sliding and tight fits, sawing; pin, screw, and key filing, surface-finishing with scraper, etc.

II. Machine work occupies the remainder of the school year. The work includes cast iron, wrought iron, steel, and brass; plain cylindrical turning, turning to various diameters and lengths, paper turning, facing with chuck and face plate; drilling both in drill press and lathe; reaming, boring, screw-cutting with lathe and with taps and dies; planing, slotting, etc., with planer and shaper; milling various forms with milling machine; fitting, etc. Lectures are also given during the year on various subjects connected with machine work in metals, such as forms, construction and use of machines and cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given to the classes.

All instruction is given, first, by black-board drawings or sketches, which the student copies, with dimensions required, in a note book, with which each one provides himself; thus each one works from his own notes; this is supplemented, whenever necessary, by the actual construction of the lesson by the instructor before the class; second, by inspection and direction at the bench or machine by the instructor.

Students desiring to pursue the study of applied mechanics beyond the above course in shopwork will be required to take, in addition, a special course, embracing the study of steam and mill engineering, supplemented by experiment and practice with the apparatus, including steam generation, and the forms, construction, and use of steam-boilers and accompanying apparatus; steam as a motive power, and forms, construction, and use of the steam-engine, with the study and use of the indicator; transmission of power, shafting, belting, gearing, etc.; also elementary theoretical mechanism.

CLAFLIN COLLEGE OF AGRICULTURE AND MECHANICS' INSTITUTE.

Orangeburg, S. C.

This institution shares equally with the University of South Carolina the revenue from the United States agricultural college land grant. Its advantages and privileges are offered to all of either sex without regard to color.

The industries pursued were established through the aid of the John F. Slater Fund.

The president of the institution, Rev. L. M. Duntun, D. D., reports as follows:

"This institution is fully committed to industrial education.

"The following departments have been established, and are being prosecuted as far as the funds at our command will admit:

"School of agriculture, school of carpentry, school of printing, school of mechanical drawing, school of tailoring, school of shoemaking, school of house painting, school of blacksmithing, school of domestic economy, industrial store, military tactics, and general economy.

"As there is not a local market for anything that we could manufacture, and as the funds at our command are limited, and as it is absolutely necessary to make our industries self-supporting, we have undertaken to supply, as far as possible, the daily demands of our own institution. We are astonished to learn that in order to do this our departments are likely to be taxed to their utmost capacity.

"The farm supplies the institution with corn, potatoes, vegetables, milk, and meat.

"The school of carpentry repairs and builds everything, from a wheelbarrow to a cottage.

"The printing office does job work and issues a neat little paper called the *Clafin Miscellany*.

"The tailoring department repairs and manufactures clothing.

"The shoe department repairs shoes.

"The school of house painting gives lessons in painting, graining, etc.

"The blacksmith department repairs everything in its line, also repairs locks, tin ware, stoves, etc.

"The school of domestic economy teaches house-keeping, cooking, sewing, and fancy work.

"The industrial store furnishes books, stationery, and, as far as possible, everything that a student needs.

"The department of military tactics is intended to cultivate attention, prompt obedience and an erect and graceful carriage of the body.

"Economy in everything is encouraged as the surest way to success.

"Full work is required of all students in the class-room. It has been demonstrated to our satisfaction, not only that two hours of labor in the afternoon do not detract from the work required in the class-room, but also that the students engaged in manual labor enjoy better health, and average a greater per cent. in the class-room, than those who are not so engaged."

CLARK UNIVERSITY—INDUSTRIAL DEPARTMENT.

Atlanta, Ga.

Students are admitted to all the privileges of Clark University without regard to color, sect, or sex.

COURSE OF INSTRUCTION.

The course in the industrial department extends over three years, during which the elements of a common school education are given in conjunction with industrial training, as follows:

First year.—Arithmetic to decimal fractions, reading, spelling, and writing. Industrial instruction two hours. Practical work two hours each day.

Second year.—Arithmetic to evolution, reading, spelling, and writing. Geography to South America. Industrial instruction as first year.

Third year.—Business arithmetic twice each week. Geography completed, elementary grammar, reading, spelling, and writing, industrial and architectural drawing. Work one hour each day.

N. B.—All students in English studies requiring aid must take this course.

INDUSTRIES TAUGHT.

CARPENTRY.

A two-story shop contains an engine, one circular saw, two scroll saws, three lathes, and draughting tables.

The young men learn the use of tools, and how to draw plans and to make specifications for buildings.

A large number of houses have been built by the students, and practical work in this line is given every year.

AGRICULTURE.

Four hundred acres of land give plenty of room for this department.

PRINTING.

A good press and a full newspaper and job-printing outfit give students an opportunity to become first-class printers. A bi-weekly paper, *The Elevator*, gives practical experience that is very valuable. Besides the paper, the students do all the college printing, as well as outside job work.

DOMESTIC ECONOMY.

Under the management of the Woman's Home Missionary Society of the Methodist Episcopal Church.

A beautiful cottage furnishes a "model home," where a class of twelve remain one year and learn the art of house-keeping. All the girls are taught various kinds of sewing, and an advanced class studies the most approved systems of dress-making and millinery.

WAGON AND CARRIAGE BUILDING.

Wood work.—The carriage shop is in charge of a competent mechanic, who gives instruction in every branch of this trade. Carriages and wagons are built here, furnishing all the practice needed.

Iron work.—A neat shop is supplied with forges, anvils, and all the necessary tools. During the past year a large class has been taught all kinds of wagon iron work. The citizens of Atlanta afford generous patronage, thus giving the students valuable practice.

Trimming.—All branches of this profitable trade are taught by an excellent workman.

Painting.—The painting and varnishing of every description of carriages is done in the best style, and a limited number of students can take lessons.

HARNESS MAKING.

This department has been crowded with orders this year, and a large class has taken instruction and made rapid advancement.

Expenses.—The university, through its industrial department, furnishes unusual opportunities to work out a large part of the expenses.

Number of students.—The number of students in the various industries is as follows: Carpentry, 8; printing, 20; wheelwrights, 11; iron work, 9; harness making, 6; carriage painting, 3; trimming, 3; total, 60. Whole number of students in university, 322.

New shops, to cost \$5,000, are being built, as well as a Girls' Industrial Home, to cost \$4,500.

President E. O. Thayer writes as follows:

"We endeavor to teach trades, and not to give mere technical instruction.

"Work is not compulsory, but we have no difficulty in securing workers in every department.

"Our best students are, as a rule, our best mechanics.

"We find that those who become most proficient and deeply interested in their trades soon desire to drop their studies and devote themselves to work.

"One of the chief lessons taught by having industrial training in connection with literary work is the dignity of labor and the possible harmony between the two courses.

"I am convinced that merely technical instruction is not adapted to the 'environment' of the colored youth.

"One great value of the industrial work is that we can aid poor students without taking away their feeling of independence."

HAMPTON NORMAL AND AGRICULTURAL INSTITUTE.

Hampton, Va.

[Statement of S. C. Armstrong, Principal.]

Our manual labor departments number twenty, as follows:

Home and Hemenway farms.

Huntington Industrial Works, including saw-mill and wood-working shops.

Girls' industrial room.

Printing office and bindery.

Wheelwright and blacksmith shops.

Green-house.

Girls' garden.

Knitting room.

Engineers' department.

Household work, including laundry, cooking class, and diet kitchen.

Indian training shops, including wood-working room, wood-carving, carpenter shop, harness shop, shoe shop, tin shop, and paint shop.

These represent the chief industries of the school. There are, however, about 30 boys, with a daily duty of from two to three hours before and after school, employed in the care of the buildings occupied by officers and of Academic Hall. Every one of our 600 students has his or her routine work by the hour or the month, as they are day or night students; and so far from finding that this interferes with their studies, it is unanimously acknowledged by our teachers to be a distinct assistance and stimulus.

Last year I reported the establishment through the Slater Fund of a technical department. Here each member of the Senior class, both young men and women, takes a course of instruction in the use of carpenters' tools. The girls show talent and growing interest, and respond to this training quite as much as the boys. We propose to give, in addition, instruction in the use of blacksmiths' and wheelwrights' tools, and in bricklaying, plastering, and painting. All this is supplementary to the regular shops, where the students serve an apprenticeship of three years, working by day and studying at night, earning at first their board only, and later \$10 or more a month, in addition.

Technical teaching here, as elsewhere, is solely for instruction. While we seek as far as possible to produce useful articles and thus reduce expenses, we give no immediate pecuniary help to the pupils, and the cost to the school in teachers' salaries, tools, etc., is large. We are obliged, therefore, to provide productive industries of some sort for a majority of our students, who have to work their way, paying in labor their board of \$10 a month and the cost of books, clothing, and incidentals. Most of them work all day on the farm, in the household, or at general industries, for the first year, studying every evening, except Saturday, in the night school. At the end of this year they usually begin the normal course, studying four days in the week and working two. Some idea of the market value of this labor may be gathered from the fact that during the past year the total earnings of our students were \$50,339.25.

As regards the conclusions to which our experience has led us, I would say, first, that we find a distinct difference between the results of technical training, pure and simple, and those of the apprenticeship system. The former is simply class work in the shop, exceedingly valuable, but limited in its influence; while through the latter we find that our students get a discipline, a habit of steady industry, a skill and self-reliance, which are literally inestimable.

We have, I think, been able to combine here the benefits of technical teaching and of the apprenticeship system to great advantage, a large majority of our students acquiring some kind of training in direct self-support, while getting, besides, at least a general knowledge of the special uses of a variety of tools.

We find, secondly, as I have said before, that neither technical nor productive manual labor, as we here regulate it, interferes in the least with the intellectual growth of the students. On the contrary, we cannot too strongly reiterate our conviction that, in the best sense, it stimulates it. The workshops "tone up" the class-rooms in a way which even yet surprises us.

Thirdly, the disciplinary effect of regulated labor is admirable. In this respect we have come to have the fullest confidence in our system. Not only does the fact that our students are constantly and healthfully occupied mean that they are kept out of mischief, but it means also a general, steady building up of character, which tells on the *morale* of the whole institution, and from which we get results attainable in no other way.

In short, the experiments carried on here during the past twenty years justify us, we believe, in committing ourselves to the declaration that nothing like complete development, or even sound growth, is possible for the races with whom we are dealing except as their education shall be largely and fundamentally industrial. There is no salvation for them except as the "work idea" shall be incorporated into their lives; and that they themselves are, at least in part, conscious of this, is shown for us by the steady increase of applications for admission, our "work students" numbering now 180 as against 20 a few years since.

Yours, respectfully,

S. C. ARMSTRONG,
Principal.

HOWARD UNIVERSITY.

Washington, D. C.

[Statement of Rev. William W. Patton, D. D., LL. D., President.]

WASHINGTON, D. C., *January 17, 1888.*

DEAR SIR: In response to your letter of inquiry of the 5th instant, I would state that we have now commenced our fifth year of experience in what is called "Industrial Education." Beginning with scarcely any equipment for so important an undertaking, we have made a perceptible progress from year to year, through the bene-

factions of a few specially interested (principally of the denomination of "Friends") and the aid of Congress. By the assistance of the latter the building in use has recently been reconstructed, and is now well adapted to its purpose, having rooms for instruction in carpentry, sheet-iron and tin work, printing, tailoring, and shoe-making, in all of which branches of industry we impart a degree of training. In addition, the girls have received instruction in cutting, fitting, and sewing, and to some extent in cooking and laundry work, while a few have learned type-setting and type-writing.

Our plan of procedure is, to require three years of practice in the industrial department of every student in the normal and preparatory departments, and to encourage those in the higher departments to avail themselves of the opportunity to acquire this kind of knowledge and skill, which many of them do. The hours per week compulsorily required of each are but four, though some become so much interested as voluntarily to spend much more time in this way. Each student selects the line of industrial work which he prefers. Of course we do not aim or profess to teach trades as such. We have not the arrangements for that purpose, nor have the students the requisite time. We are a literary institution, and industrial training is but an incidental appendage, so managed as to add the advantages of learning a use of tools without interfering with the main object of the university. We enable the young men to be self-helpful, without setting them up as qualified mechanics. The small time per week allowed for imparting these mere rudiments of mechanical trades does not allow of results which would make the industrial department self-sustaining, although small returns for work are occasionally obtained.

Though much embarrassed by the lack of means for obtaining the teachers, the tools, and the materials needed for thorough work, the results secured have been on the whole decidedly encouraging, and may be thus described:

1. A tendency to form habits of industry and thrift, especially in the use of leisure time, through the opening up of new employments and opportunities of earning money.

2. A higher conception of the dignity of manual labor, especially in its skilled forms, which are found to involve mental as well as manual ability; while the way into mechanical pursuits is made more inviting by their association with study.

3. An intellectual benefit in the exercise of attention, patience, care, ingenuity, and judgment, called for by mechanical processes.

4. A pecuniary advantage, in that quite a number have been enabled, after a little practice, to make for themselves needed articles of clothing and furniture, and also, in vacation, to earn money in various trades, the elements of which had been mastered.

5. A preparation for usefulness in their future spheres of action, as they go into the rural districts of the South, carrying with them this practical mechanical knowledge, and being ready for the material emergencies which are sure to occur even with preachers, teachers, and heads of families, as well as with those engaged in manual occupations.

A practical question for such an institution as Howard University is whether it might not be a better plan to teach fewer industrial branches, and to require all male students in the normal and preparatory departments to take the three years' course in carpentry, as one likely to be of value to all in the future, reserving one or two other branches for special cases.

With this brief statement of our experience, I remain,

Yours, truly,

WM. W. PATTON,
President of Howard University.

Hon. N. H. R. DAWSON,
Commissioner of Education.

INDUSTRIAL INSTITUTE AND COLLEGE FOR THE EDUCATION OF WHITE GIRLS OF MISSISSIPPI.

Columbus, Miss.

[Statement of President R. W. Jones.]

COLUMBUS, MISS., *January 23, 1888.*

DEAR SIR: In compliance with your request I send you a brief statement of our "course of industrial training, with its relation to the general curriculum of your [our] institution." By way of introduction I will state that this institution presents an unusually broad intention. Its purposes are: (1) *thorough collegiate education*; (2) normal training; (3) industrial training; (4) music and oil painting. It will be unnecessary for me to describe the work of the department of music and oil painting further than to say that a fair proportion of the music students propose to follow the profession of teaching.

The conditions of admission require a knowledge of spelling, reading, writing, mental arithmetic, practical arithmetic, English grammar, and an elementary acquaintance with the history of the United States. These are very "light" requirements, yet a very large majority of our pupils are not equal to them. This lack of preparation has necessitated the organization of a two years' preparatory course, in which are taught arithmetic, elementary algebra, higher English grammar and analysis. Thereafter comes the collegiate course.

Our industrial training includes:

- (1) Drawing, beginning with the simplest free-hand drawing and proceeding to elaborate work in design and crayon portraiture and other applications.
- (2) Phonography and type-writing.
- (3) Book-keeping.
- (4) Telegraphy.
- (5) Cutting and fitting dresses, etc., by the tailor method.
- (6) Printing
- (7) Art needle-work.
- (8) Practical instruction and exercise in cooking, laundrying, and general housework.

Our industrial work has a two-fold aim: (1) educational, and (2) practical, or trade learning.

Along with the preparatory studies mentioned above, as well as with the normal studies, each pupil is required to take a thorough course in drawing, going up into modelling, etc. These students have at least one recitation per day of an hour's duration in this art. We find the time given to it is *not* "time lost;" on the contrary, the influence on the student's mental habits and progress is highly beneficial. Drawing and its applications develop the habit of close and accurate observation, the measurement of short distances and of proportion by the eye, delicate perception of form, and the interpretation of shades and shadows. This exercise is of the general nature and effect of object-teaching; it brings the mind to the recognition of realities. An hour devoted to it is a relief and refreshment of the mind that has been poring over mathematics and language. Thereafter intellectual work is more cheerful, hopeful, and successful.

The various kinds of housework are performed by details of students made from time to time, so that each student is practised in all kinds of domestic work, except the heavier duties of the kitchen and laundry. This we find has an excellent educational value.

Another large class of students come to this college to learn a special art or industry by which to be self-helpful, or to earn a livelihood. Generally this class of students do not take up a regular course of mental training. Some few of these have previously had a general school or college training; but for the most part they find,

after they have entered upon a course of special training for an art, that they need additional instruction in English, or mathematics, or both, and they add these subjects to their pursuits. For instance, a young lady desires to become a book-keeper; as she advances to the study of the various kinds of calculations to be made, she feels the need of a better knowledge of arithmetic and a wider and closer knowledge of the meaning of words. A young lady who enters upon a course of phonography finds at once that a full English vocabulary is indispensable to excellence in the work of a reporter or amanuensis; lacking this, she enters the classes in English.

Thus every industrial art emphasizes to the student the importance of general intelligence, the importance of the trained mind, the value of thought-power. Those who desire to employ any of these arts for a livelihood learn here at an early period of their course that they must encounter the close competitions of society, come into dealing with people, and must therefore have knowledge of "men and things," and genuine skill and dexterity. At first there was much of impatience "to get to work" and make some money; but this hasty and restless disposition is yielding to instruction, and the number is increasing of those who take a liberal course of general education in order to be properly qualified for a specialty. General training helps the special study, and the industrial art constantly suggests the need of the power and application which education gives.

PRACTICAL RESULTS.

Many students have been well prepared in telegraphy, book-keeping, phonography and type-writing, dress-making, and printing, and have secured employment in their respective lines with fair wages.

Though the college is now in its third year only, many students have acquired considerable expertness in designing, engraving, carving, and crayon portrait work.

Their designs have been subjected to the criticism of prominent manufacturers in New York, Brooklyn, and Philadelphia, and pronounced good and salable. Some of the students working here as students have received orders for portrait work at good pay.

The success of the institution has been marked.

Very respectfully, your obedient servant,

R. W. JONES.

Hon. N. H. R. DAWSON,

Commissioner of Education, Washington, D. C.

MARYLAND INSTITUTE SCHOOLS OF ART AND DESIGN.

Baltimore, Md.

The object of these schools is to furnish the best and most thorough instruction in the various branches of artistic and industrial drawing, painting, and modelling in clay, to all persons desiring to study art with a view of following the same professionally, as teachers, designers, decorators, or skilled artisans generally; also to give a liberal art education to those who wish to study art as an accomplishment, and for the enjoyment of its refining and elevating influences.

The principal, Otto Fuchs, late principal of the Massachusetts Normal Art School, writes as follows: "Instruction in the day school is almost exclusively artistic, including free-hand drawing, shading in charcoal, painting in water colors and oil, and modelling in clay. All studies are from objects, *i. e.*, still-life, flowers, fruit, and from ornamental casts; head and figure drawing from the antique and from life; landscapes alone are drawn and painted from copies, but these are studies prepared especially for that purpose by accomplished artists. Our aim in the day school is to give

such thorough instruction in the several branches enumerated as will qualify the students to teach drawing, painting, and modelling in schools and seminaries, also to fit those who have the talent to become artists to enter higher art schools in this country or Europe.

"The work in the evening schools is altogether industrial,—free-hand object drawing in outline, light and shade in charcoal, mechanical and architectural drawing. These classes are attended exclusively by young men, mostly apprentices and artisans engaged in the various industrial pursuits where a knowledge of drawing is essential. The courses of instruction in the three divisions are systematic and thorough, copying from the flat being entirely discarded. Building construction and machine drawing are taught by aid of models made especially for that purpose. In the mechanical class the pupils first make free-hand sketches from the models, then measure all dimensions, and finally construct accurate scale drawings from their own sketches. In the architectural class they are furnished a small perspective view of a cottage, and must prepare a complete set of working drawings, plans, elevations, and sections of the house, drawn in a neat and draftsmanlike manner accurately to scale, carrying out the design indicated in the sketch. No one can graduate until he has completed in a satisfactory manner an entire set of drawings of a steam-engine or a building. In the free-hand division a still-life group, a piece of ornament from the cast, and a head from the antique, all shaded in charcoal or crayon, are required.

"The importance and practical value of this instruction to apprentices is shown by the interest which many of our leading manufacturers and builders manifest by requiring their young men to attend the institute schools, some of them paying the tuitions for the boys, allowing them to leave their work early on school nights, and requesting from time to time reports upon their attendance and progress. The proficiency acquired in the three years' course by those who possess the requisite talent is also well established by the readiness with which they find employment as draftsmen in engineers' offices, with architects and builders, and occasionally at ornamental work.

"There can be no doubt that in all manufacturing centres such schools, if properly conducted, would contribute largely to the development and prosperity of all industries which require superior skill, taste, and intelligence in their prosecution, and it is to be regretted that in many of our growing and enterprising cities the importance of such schools is not recognized sufficiently to establish them, and in others, where they exist, the support is inadequate to afford the necessary facilities. One reason for this is that foreign skilled artisans supply the demand, and therefore our own youth receive little encouragement."

MCDONOGH SCHOOL.

McDonogh, Baltimore County, Md.

The founder of the McDonogh School was John McDonogh, a native of Baltimore, but during the greater part of his life a resident of New Orleans, where he accumulated considerable property. At a comparatively early period of his life he determined to devote all his estate to charities. Twelve years before his death he made his will, devising the bulk of his property, amounting to \$1,500,000, in equal parts to the cities of New Orleans and Baltimore, for the promotion of the object he had in view. The portion of the estate given to Baltimore was devoted, in accordance with one of the provisions of the will, to the establishment near that city of a farm school for the education of poor boys.

Since the opening of this institution in 1873 it has been conducted as a non-classical home school of high grade. The course is sufficient to fit boys from seventeen to eighteen to enter the Johns Hopkins University, or any college, in all the subjects required, except in Latin and Greek. Manual training has been introduced solely for

its educational value, as will appear in the course of the following letter from Principal W. Allan :

McDONOGH SCHOOL, *January 10, 1888.*

DEAR SIR: The following is in reply to yours of January 5, making inquiries as to industrial education :

(1) Our boys are all between the ages of ten and seventeen years, and they all come from the city of Baltimore.

(2) The schedule of studies which I herewith inclose shows that, during our school session, about thirty-one hours per week are given to the usual recitations and study under the supervision of a teacher, and nine hours per week are assigned to manual training. The manual training classes do all their work in the afternoons and on Saturdays, so as to avoid interference with the ordinary school classes. The school session embraces forty-two weeks of the year. For eight weeks of the remaining ten our boys are here, and all their work-time (six hours per day) during that period is given to manual training ; so that the manual training occupies altogether nine hours per week during the school session, and thirty-six hours per week during the summer when no other classes are in operation.

(3) The means that have been used for manual training so far are farm and garden work, a printing office, and a wood shop, well furnished with hand tools. The garden and farm work have been in use since the organization of the school in 1873, the printing office since July, 1883, and the wood shop since January, 1885. The wood shop contains at present 15 boys, all of whom are above fourteen years of age ; the printing office contains 20 printers, and in it there is no limit as to age ; the remainder of the 90 boys now constituting the school are in the farm and garden squads, except some half dozen engaged in type-writing and map-making.

(4) The aim kept in view in our manual training is simply educational. If the work done by the boys has sometimes had value, that is incidental—we have no more expected any results of commercial value from their manual training than from their study of arithmetic or English. Our purpose is, by careful teaching and supervision, to train eye and hand and mind to perform well and accurately a number of simple hand-craft operations, and to combine them in construction.

(5) We have found no difficulty in incorporating manual training into our school curriculum. We give the usual amount of time to the common school studies, and have taken that needed for manual training from what is generally put down as spare or play time. Experience leads us to believe that the progress of the school in the usual studies has not been at all lessened in consequence of the introduction of manual training. We get over as much ground, and fully as well, as we would without it.

(6) The results of manual training upon our boys have been altogether good. (1) Many of them have been helped intellectually—have done much better in their studies when once they have developed some mechanical aptness and skill. (2) All have shown the good effects of this training, not merely in the skill of hand and eye acquired, but in the power which arises from the sense of being able to create something, and from the facility which such work gives of applying knowledge and adapting means to an end. (3) The direct utility value of this training to boys, many of whom, at seventeen, enter various industrial pursuits in the city, is very great. It gives them a large advantage over others who have had no such preliminary training, but must get it in the establishments they enter.

(7) Our conclusion is that such training is a very important matter, especially to city children. Country boys and girls get a good deal of this sort of teaching in an irregular way at home, but the mass of city children have no such opportunity. To the vast majority of children in our schools manual training is not less important than the three R's. Our plans here look to an extension of facilities in this direction.

Very respectfully, your obedient servant,

W. ALLAN,
Principal.

Hon. N. H. R. DAWSON.

MCDONOGH SCHOOL, 1887-88.

Schedule of the number of hours assigned each week to the various subjects of study.

Classes.	English.	German.	Mathematics.	Geography.	History.	Writing.	Book-keeping.	Shorthand.	Biology.	Physiology.	Physics.	Drawing.	Music.	Handcraft.	Total per week.
First (highest).....	3	7	8	.....	4	.....	.....	4	.....	.....	5	2	2	9	44
Second.....	3	7	8	.....	3	.....	.....	4	.....	5	.....	2	2	9	43
Third.....	5	6	9	.....	.....	.....	4	.....	4	.....	.....	2	2	9	41
Fourth.....	10	.....	10	4	.....	2	.....	.....	.....	.....	.....	2	2	9	39
Fifth.....	10	.....	8	4	.....	2	.....	.....	.....	.....	.....	2	2	9	37
Sixth (lowest)	9	.....	6	5	.....	2	.....	.....	.....	.....	.....	2	2	9	35

TOUGALOO UNIVERSITY.

Tougaloo, Miss.

[From statement of Rev. Frank G. Woodworth, Principal.]

The industries pursued here are those of most practical value to the colored people of this State. Farming is taught practically on the large plantation of the school. The instructor is a graduate of Amherst Agricultural College. Each boy not in a trade is expected to work, under the direction of the farm superintendent, for an hour each day throughout the course. A few boys give their whole day to the farm and go to school at night. Lectures on agriculture are given during the ninth year of the course. Special attention is given to stock-raising, and to the best practical methods of raising the standard crops. Attention is also given to small fruits.

Blacksmithing and wagon-making are taught by a thoroughly competent blacksmith and wagon-maker. All boys of the eighth grade have an hour daily for two terms in this department, and learn the fundamental principles. Several apprentices are indentured and serve four years, and become competent in all departments of the two trades, so that, beginning with iron and wood in the rough, they can construct excellent wagons. As a large part of the repairing for this region is done in our shop, excellent advantages for training in details of all sorts are afforded.

Boys of the eighth grade have also one term's daily instruction in tinning, learning the use of tools, how to solder, mend, and make simple utensils. In this work there are apprentices trained for four years and made complete workmen.

Carpentry is the industry of the seventh grade—daily lessons throughout the year in the use of tools, making simple articles, repairing, etc. Quite a large number of apprentices are here trained for four years, under direction of a fine carpenter. Valuable practical work has been given them in the construction of school buildings, which are considered models of good and cheap building. They will go to work at once on a church in Jackson, six miles away. In the carpenter shop they also learn something of cabinet-making, and do most creditable work.

The girls are taught all branches of household economy from dish-washing up—table-setting, chamber work, cooking, preserving, and mending and darning up to dress-making. In a small cottage, four at a time, they keep house for a month, doing all their work, buying provisions, keeping accounts, etc., thus becoming acquainted with practical house-keeping. Such training we regard as of especial value, and expect to develop it greatly.

Some conclusions reached are these:

- (1) Industrial training is of prime importance for the colored people.

(2) While having value in itself considered, it is eminently helpful in ordinary school work through the discipline it gives and the habits it begets.

(3) The industries pursued should be those of the most utility to the people. A few of this class well handled are better than greater diversity.

(4) In order to success there must be thoroughly competent teachers and ample appliances. We have here commodious shops for the trades, with good facilities. With one exception—the tinsmith—all the industrial superintendents devote their whole time to their especial trades.

(5) The chief difficulty arises in the endeavor to make the necessary adjustments between head-work and hand-work, but by care this has been and can be successfully met.

Very truly yours,

FRANK G. WOODWORTH,
President Tougaloo University.

MANUAL TRAINING AT THE TULANE UNIVERSITY OF LOUISIANA.

New Orleans, La.

[Statement by President William Preston Johnston.]

TULANE UNIVERSITY, NEW ORLEANS, LA., *February 4, 1888.*

DEAR SIR :

* * * In October, 1880, I was placed in charge of the Louisiana State University and Agricultural and Mechanical College, at Baton Rouge, La., as president. This institution has the fund arising from the donation by the United States, granted by act of July 2, 1862, for the benefit of agriculture and the mechanic arts. This fund realized annually \$14,555.65, but no provision had been made for its application to the purpose of the donation. In order to do what was possible toward practically and faithfully carrying out the law, as far as possible with the limitations upon us, a mechanical course was organized, in which, in addition to a good course in English, French, and mathematics, the study of theoretical mechanics was pursued. On the industrial side a full course of drawing, principally mechanical, was established; and in the spring of 1881 a workshop was erected, a plain wooden structure, which was supplied with carpenters' benches and tools, three turning lathes with the necessary belting and shafting, a four horse-power Baxter portable engine, a jig-saw and other machinery, grindstones, some blacksmiths' tools, etc. Instruction was given in carpentry, wood-turning, and pattern-making, and a good deal of attention was paid to teaching the students vice work and the care of tools. The management of the steam-engine was also taught them. The course of study covered two years. The instruction was conducted in the industrial branches by Prof. John Hampden Randolph, Jr., a graduate of the Rensselaer Polytechnic School, Troy, N. Y. He labored under many difficulties and discouragements, but carried out our plans, to the extent of his means, with industry and intelligence. The subsequent history of the work may be learned from the authorities of that university. So impressed was I at Baton Rouge with the utility of industrial instruction that thenceforward I devoted a very close attention to the subject.

In January, 1883, I was invited by the board of administrators of the Tulane educational fund to organize an institution for higher education in New Orleans, and, in October, 1884, the Tulane University of Louisiana was established, the old University of Louisiana serving as the basis of its organization.

Mr. Tulane in his act of donation, while contemplating and directing an institution for the higher education, had said that his gift was "for the promotion and encouragement of intellectual, moral, and industrial education, among the white young persons in the city of New Orleans," and had defined education as "such a course of in-



WOOD-TURNING AND PATTERN SHOP, TULANE UNIVERSITY MANUAL TRAINING SCHOOL.

tellectual development as shall be useful and of solid worth, and not be merely ornamental and superficial," and "as being conducive to immediate *practical* benefit, rather than theoretical possible advantage."

In my first report to my board, June 4, 1885, I recommended the establishment of "workshops for instruction in wood and metal working, and complete courses in drawing." The Prussian ideal of education was adopted as our initial point of university development—"education is the harmonious and equable evolution of human character"—with the addition of Stein's formula, "By a method based on the nature of the mind, every power of the soul to be unfolded, every crude principle of life stirred up and nourished, all one-sided culture avoided." It is clear to all philosophical teachers that though systematic intellectual instruction must necessarily be their chief function, yet a proper care and development of the moral and physical sides of our nature are duties of equal, if not superior, importance to the pupil. Much of this care and development, it is true, must be implicit and incidental, rather than direct, the result of influence more than of formal instruction; still, both moral and physical training can and should be employed in "the harmonious and equable evolution of human character." Almost all educators agree on this principle, yet practically how few attempt to do much, or indeed anything, to put it into effect? Usually the conscience is satisfied with the acceptance of the principle as a dogma in an educational creed, or at most with a formal proclamation of its importance; but its realization is indefinitely postponed. We resolved to attempt in Tulane University a partial realization of it, at least; for any complete physical education was far beyond our means.

In determining what method of physical training should be adopted to attain our end, we had, of course, the experience of the past to guide us. The manual labor schools, which have served so needful a purpose in special training in Europe, and have proved such conspicuous failures in rendering rough toil and routine work attractive in this country, served as warnings; and mere military discipline and drill, except when employed for a distinct professional object, fell so far short of ideal physical culture, and, despite some benefits under certain favorable conditions, were so barren in good results, that we felt compelled to disregard them. Finally, not overlooking the advantages of gymnastics, calisthenics, stated exercise, play, and amusement, we found that our best prospect for success was in manual training—the employment of modern forms of handiwork teaching in its various phases. This department of instruction appealed to us, not by reason of its novelty, but as that branch of physical education which, in default of a rounded and perfect system, is most consonant with human reason, conducive to all the ends of education, and potent toward that intelligent energy which is the best justification of American institutions.

In shaping our theory and practice of manual training we have endeavored to conform to general principles, without losing sight of those practical results which are the sure tests of their truth. Our purpose was to adopt the very highest ideal and employ the most efficient agencies, for thus only could we fairly decide as to the merits of the system under trial. The Russian system of instruction in handiwork had met the approval of the most competent thinkers, and, as introduced into this country at the Massachusetts Institute of Technology, had obtained a merited recognition. Basing our methods upon those of this most useful institution, to which we are glad to acknowledge our obligations, we placed the direction and development of our manual training in charge of Prof. John M. Ordway, who resigned an important chair there for this purpose.

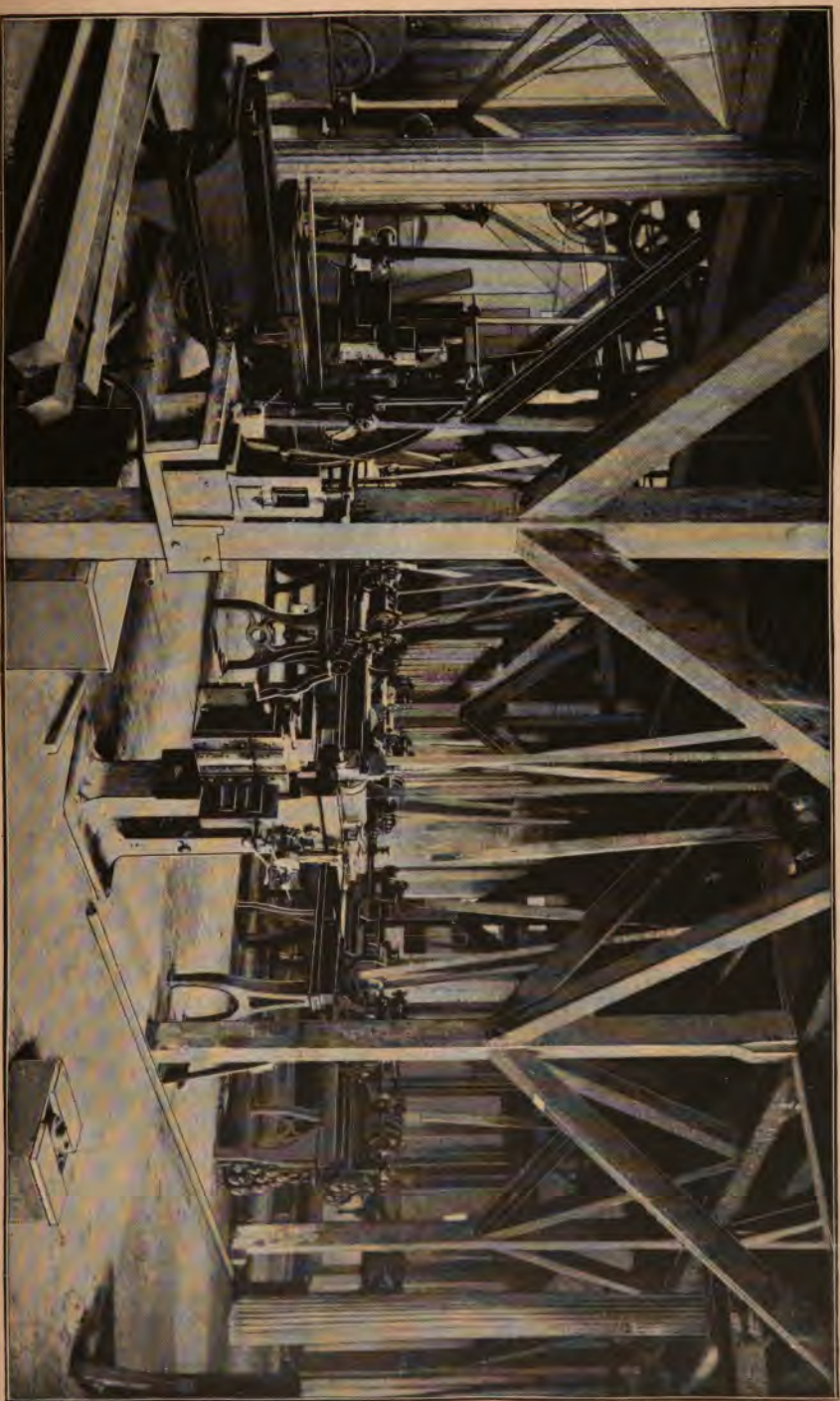
In the organization of a system of manual training, our first and chief object was to make it an integral part of the general education offered our pupils. Our intent was to secure for them, as far as possible, the benefits of physical training, directing these at the same time to useful ends. These benefits are not all, or chiefly, utilitarian merely; but, as has been repeatedly shown, have also a reflex subjective intellectual and moral effect, resulting from the organic unity of a human being. This was our

first consideration, and in carrying it out we sought to give manual training its proper place in the physical culture of our students. The school-house performs but a limited part in the entire education of its pupils; and so, even in their physical development, it can often afford but a very small part of that training which secures the most perfect and satisfactory results. But the eye, which is the "light of the body," can be taught the art of seeing, the habit of observation, the power of measuring and weighing, and the right, as vicegerent of the brain, of directing the hand. And the hand, the heaven-ordained symbol of human dominion over nature and all its realms, animate and inanimate—this too can be made the efficient agent of the mind of man, in its dearest and daintiest processes as well as in the majestic triumphs of its highest energies. Have we a right to neglect the education of these two mighty servitors of the soul? Can its complete work be done without the compliance and aid of these most useful ministers? The school-house can not perfect their entire training, but this much it can do: With a good method of manual instruction, it can train the hand and eye into an adjusted and efficient utility; and, in this process it can strengthen and discipline muscle and brain and bodily organs, and can stimulate, enlighten, and regulate thought and will. Such a method we have endeavored to discover and apply, and we think we have succeeded.

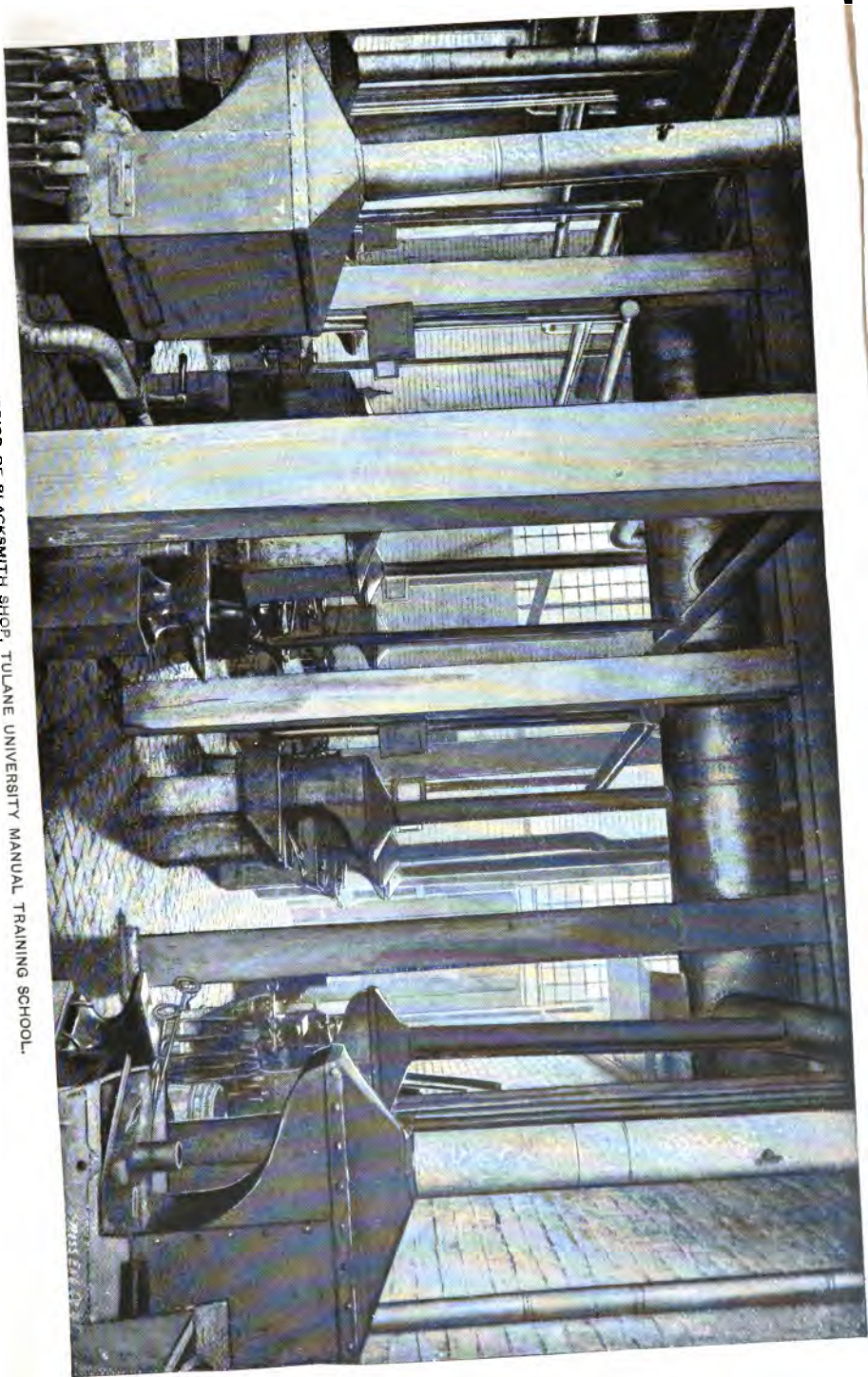
With so large a purpose then, and viewing handwork as a necessary part of general education, we did not limit ourselves to the establishment of a school of mechanic arts, or of a manual training school, except in name, or indeed of an industrial school of any kind. Our group of workshops has been treated simply as a laboratory for the High School and College Mechanical Course, in which manual training was given to all as an integral part of their general education, and for this reason it has been made compulsory on all students who entered those departments. This compulsory feature, which recognizes labor, dignifies it. The training in the High School forms a sufficient and valuable, and, as we believe, indispensable, basis for a thorough professional education in mechanical engineering. It leads directly to it, moreover; so that the Freshman in the Mechanical Course, who begins the working of cold metal with the iron lathe, to be followed by machine construction, comes to his work well prepared for it. In our prospectus we used the following language:

"A manual training school has been established. It is considered as the workshop, or laboratory, of the High School for technical training; but other students of Tulane College are admitted to it on easy conditions. It is not intended to teach trades to young men, but to make them experts in the principles and handicraft of wood-working, iron-working, and machine construction. The appliances are as nearly perfect, and the scheme of instruction as thorough, as in any institution in the United States. The effort will be made to dignify and elevate labor without interfering with more abstract pursuits. No revolution in education is aimed at; but rather moral expansion and development, through the cultivation of recognized and valuable mental and physical functions and activities; the whole system constituting a rounded and harmonious evolution of the student as man and citizen."

But we do not regard with indifference the practical utility of this instruction. The student who leaves us for his life career goes forth, we believe, better equipped for his work in the world than his neighbor who has not had the same training. He is at least a handier man; hand and eye have been co-ordinated; a large number of useful small arts have been acquired, with the knowledge and practice of the use of tools; a more observant habit has been cultivated; the language of the pencil has been mastered, by which the hand speaks to the eye; the lore of wood and iron has been learned, by which modern science has transformed the face of the earth; and rules, principles, methods, and aspirations have been gained which will make the possessor an abler and more rounded man. During the training, under competent instruction, his manual skill frequently becomes merged, or defined, in a preparation for some industrial calling; and, if the student has special gifts or aptitudes, a profession or vocation may, as often happens during his studies, be clearly indicated or opened to



IRON-WORKING ROOM, TULANE UNIVERSITY MANUAL TRAINING SCHOOL.



INTERIOR OF BLACKSMITH SHOP, TULANE UNIVERSITY MANUAL TRAINING SCHOOL.

him. But, in any event, he leaves the institution better prepared for the battle of life, and with a higher conception of the dignity of labor. He may become a skillful artisan at the least; but he is really already competent to achieve more.

These, then, were our objects, and we are confident that they are being successfully carried out. But we found that most of the great manual training schools had been organized for the promotion of skill in the industrial arts merely; and, as our aims seemed so different in such important respects from these very meritorious institutions, we did not hesitate to depart from or modify their methods, and to adapt our plans to our own special conditions. As has already been stated, we made the instruction in the manual department compulsory. This applies to all students in the High School, numbering about 240, except a few in the sub-freshman class of the classical course, who are only required to finish the wood-working. Students in the mechanical course in the college were also required to take manual training in the freshman and sophomore years, in addition to their previous high school course, and students in the mathematical and natural science courses in college had also to take it through the freshman year. The college students who have manual training among their college duties now number 14; but next year the number will be much greater.

The Manual Training School building was originally erected as a Turners' Hall, at a cost of \$60,000. We purchased it for \$11,000, and adapted it to our uses at an expense of \$4,000 more. The equipment has cost about \$35,000; in all, \$50,000, which was provided for by a special donation by Mr. Tulane. The building is about one-third of a mile from our High School building, and has a frontage of 64 feet on Dryades Street, and 128 feet on Lafayette Street. The Dryades Street front, including the entrance on Lafayette, is three stories high. On the lower floor is located the director's room, and a large apartment fitted with desks, casts, etc., for clay modelling and wood-carving. The second and third floors are occupied by the drawing classes, with every requirement in the way of desks, casts, etc., and gas lights for night classes. The remainder of the building is occupied by the shops. The upper floor of this part, formerly a ball-room, has been divided into two apartments, with lofty ceilings, for the use of the wood-working classes. In one apartment are thirty carpenters' benches, of hard wood, and a full set of tools. Two or three classes occupy these benches daily. In the other apartment are thirty benches with turning lathes, for the second year's students, and also a circular saw, jig-saw, scroll-saw, planer, and other machinery for wood-work.

The lower floor, formerly used as a gymnasium, is divided between the blacksmith shop and the machine room. The former has a brick floor, and is provided with thirty forges, anvils, and sets of tools, and apparatus for ventilation, etc., all of the most approved pattern. The remaining central part of the building contains the engine room, boiler house, and a machine shop with twelve iron lathes of varying pattern, and much other machinery for advanced instruction. A small foundry will be erected this year.

The following tables give our courses of study:

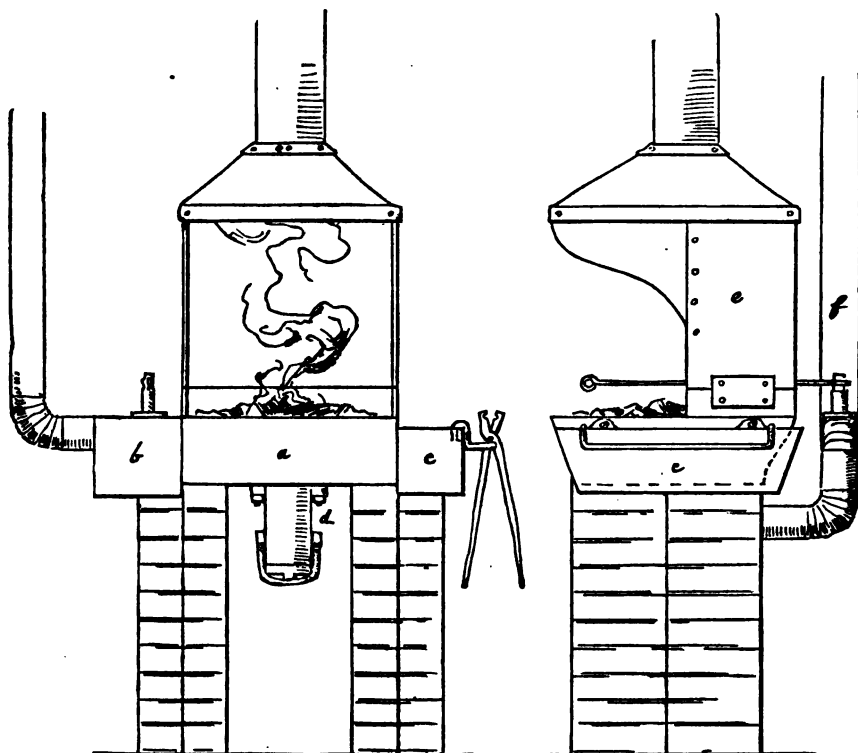
COURSE OF STUDY AT TULANE HIGH SCHOOL.

Class.	Classical course.	Hours per week.	Literary and scientific.	Hours per week.	Mechanical course.	Hours per week.	Commercial course.	Hours per week.
Sub-freshman.	English.....	5	English.....	5	English.....	5	English.....	5
	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5
	Latin.....	5	Latin.....	5	French or German.....	5	French or German.....	5
Intermediate.	Greek.....	5	Drawing.....	5	Drawing.....	5	Spanish.....	3
	Elocution.....	2	Manual training.....	5	Manual training.....	5	Book-keeping.....	5
	Physiology and hygiene.....	1	Elocution.....	2	Elocution.....	2	Elocution.....	2
			Physiology and hygiene.....	1	Physiology and hygiene.....	1	Physiology and hygiene.....	1
			Physical science.....	5	Physical science.....	5	Physical science.....	5
Preparatory.	Elocution.....	2	Elocution.....	2	Elocution.....	2	Elocution.....	2
	English.....	5	English.....	5	English.....	5	English.....	5
	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5
	Latin.....	5	Latin.....	5	French or German.....	5	French or German.....	5
	Drawing.....	5	Drawing.....	5	Drawing.....	5	Drawing.....	5
	Manual training.....	5	Manual training.....	5	Manual training.....	5	Manual training.....	5
	Greek.....	5	Natural science.....	3	Natural science.....	3	Spanish.....	3
			Penmanship.....	5	Penmanship.....	5	Penmanship.....	5
			English.....	5	English.....	5	English.....	5
	Reading.....	1	Reading.....	1	Reading.....	1	Reading.....	1
	History.....	1	History.....	1	History.....	1	History.....	1
	Latin.....	5	Latin.....	5	French or German.....	5	French or German.....	5
	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5	Mathematics.....	5
	Penmanship.....	3	Penmanship.....	3	Penmanship.....	3	Penmanship.....	3
	Drawing.....	5	Drawing.....	5	Drawing.....	5	Drawing.....	5
	Manual training.....	5	Manual training.....	5	Manual training.....	5	Manual training.....	5

COURSE OF STUDY AT TULANE COLLEGE.

Class.	Hours per week.	Literary.	Hours per week.	Natural science.	Hours per week.	Mathematical.	Hours per week.	Mechanical.	Hours per week.	Commercial.	Hours per week.
Senior.	Classical course.										
	Mental science..... 5 Political science..... 2 Rhetoric..... 2 German..... 3 Biology..... 3 English..... 3 Greek..... 3 Latin..... 2 Physiology..... 1	Mental science..... 5 Political science..... 2 Rhetoric..... 2 German..... 3 Biology..... 3 English..... 3 Greek..... 4 Latin..... 1 Physiology..... 1	9	Chemical laboratory..... 9 Biological laboratory..... 9 Rhetoric..... 2 German..... 3 Math. physics..... 3 Mental science..... 5 Political science..... 2 Physiology..... 1	9	Chemical laboratory..... 9 Physical laboratory..... 6 Rhetoric..... 2 German..... 3 Math. physics..... 3 Mental science..... 5 Political science..... 2 Physiology..... 1	6	Chemical laboratory..... 6 Applied mechanics..... 4 Rhetoric..... 2 Theory of tools, etc..... 2 German or French..... 3 Materials of con..... 3 Mental science..... 5 Political science..... 2 Physiology..... 1	6	Accounts..... 3 Commercial law..... 4 Rhetoric..... 2 Technology..... 2 German or French..... 3 Materials of con..... 3 Mental science..... 5 Political science..... 2 Physiology..... 1	3
Junior.	Latin..... 4 Greek..... 4 German..... 4 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1	Latin..... 4 French..... 4 German..... 3 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1 Geology..... 2	6	Physical laboratory..... 6 Chemical laboratory..... 6 German..... 4 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1 Geology..... 2 Mathematics..... 3	6	Physical laboratory..... 6 Analytical mechanics..... 4 German or French..... 4 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1 Geology..... 2 Mathematics..... 3	6	Physical laboratory..... 6 Analytical mechanics..... 4 German or French..... 4 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1 Geology..... 2 Mathematics..... 3	6	Accounts..... 3 Chemical laboratory..... 4 German or French..... 4 English..... 2 History..... 1 Chemistry..... 4 Astronomy..... 1 Geology..... 2 Spanish..... 3	3
Sophomore.	Latin..... 4 Greek..... 4 Rhetoric..... 1 English..... 2 French..... 3 Mathematics..... 3 Physics..... 3	Latin..... 4 German..... 4 Rhetoric..... 1 English..... 1 French..... 3 Mathematics..... 3 Physics..... 3	2	Physical laboratory..... 2 Rhetoric..... 1 English..... 1 French..... 3 Mathematics..... 6 Physics..... 6	2	Physical laboratory..... 2 Rhetoric..... 1 French..... 3 Mathematics..... 6 Physics..... 6	2	Physical laboratory..... 2 Drawing..... 3 Manual training..... 5 Rhetoric..... 1 English..... 2 Mathematics..... 6 Physics..... 6	2	Physical laboratory..... 2 Accounts..... 6 Telegraphy and short-hand..... 3 Rhetoric..... 1 English..... 2 Com'l correspondence..... 2 Com'l history..... 2 Com'l arithmetic..... 3 Physics..... 6	2
	Latin..... 4 Greek..... 4 Rhetoric..... 3 English..... 4 French..... 4 Mathematics..... 5	Latin..... 4 German..... 4 Rhetoric..... 3 English..... 4 French..... 4 Mathematics..... 5	3	Physical geography..... 3 Biology..... 3 Drawing..... 6 Rhetoric..... 3 English..... 3 French..... 4 Mathematics..... 5 Manual training..... 6	3	Physical geography..... 3 Biology..... 3 Drawing..... 6 Rhetoric..... 3 English..... 3 French..... 4 Mathematics..... 5 Manual training..... 6	3	Physical geography..... 3 Biology..... 3 Drawing..... 6 Rhetoric..... 3 English..... 3 French..... 4 Mathematics..... 5 Manual training..... 6	3	Physical geography..... 3 Commercial arithmetic..... 6 Drawing..... 6 Rhetoric..... 3 English..... 3 French..... 4 Mathematics..... 5 Short-hand and typewriting..... 3	3
Freshman.											

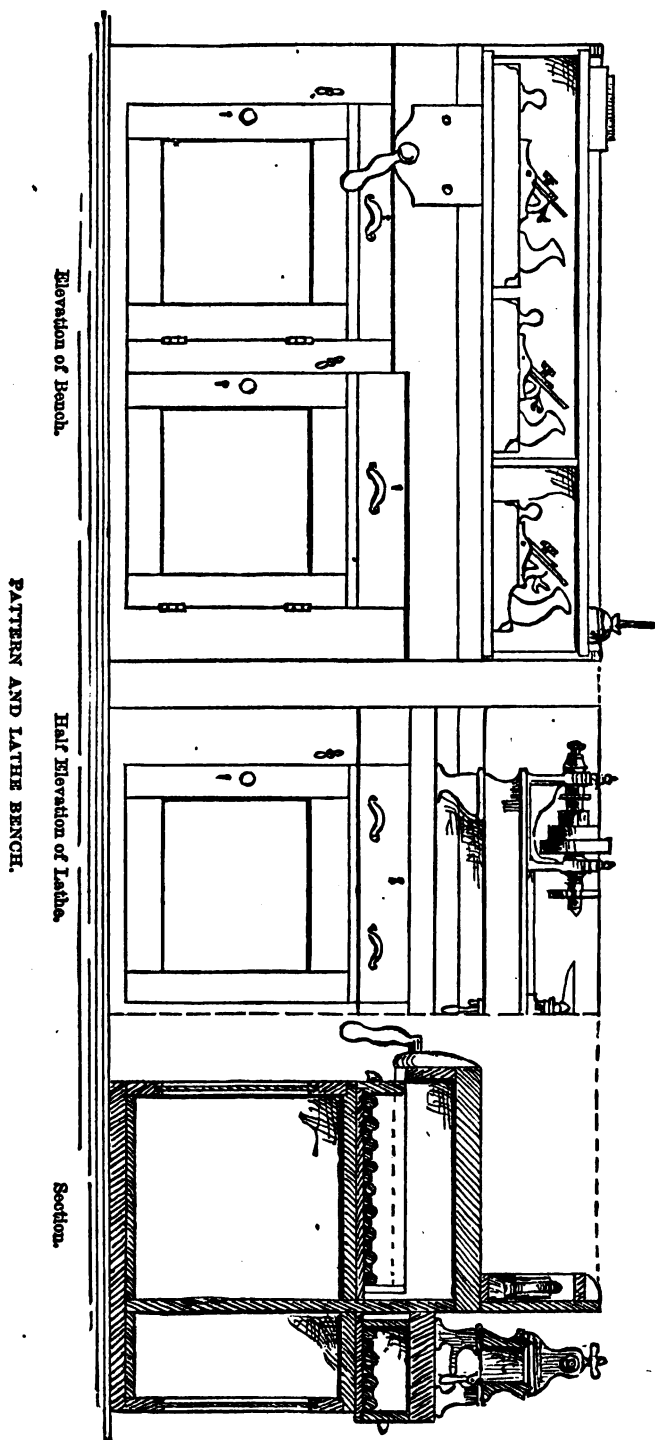
To enter the lowest, or preparatory, class of the High School, the pupil must be twelve years of age, and with a good grammar school preparation, including the whole of arithmetic. The average age of entrance, however, is about thirteen. These pupils are heterogeneous in previous education and tendencies, and it requires fully a year for them to acquire the tone and adapt themselves to the habits of the school. They are required, in addition to their ordinary school studies, to attend five days per week at the Manual Training School for one hour and a half, alternately in the drawing class and in the carpenter shop. This gives an average of only seven hours and a half per week at that school, one-half of which time is spent in drawing. The boys are not urged, nor kept under any very strict surveillance of task work, since their interest in it is found a sufficient stimulus for at least 90 per cent. of them, and the classes usually quit work with reluctance. This is, we think, largely due to the habit



FRONT AND SIDE VIEWS OF FORGE.

a, Cast iron body, lined with fire-brick; b, cast iron coal box; c, water tank; d, tuyère box; e, wrought iron hood, connected with exhaust fan; f, blast pipe, connected with Sturtevant blower.

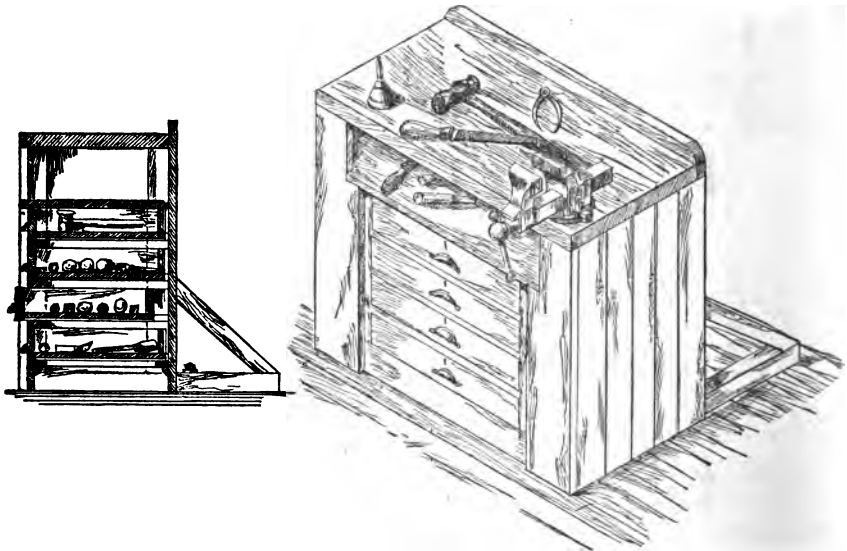
of self-control cultivated in every department of the institution, and to the example of the more advanced classes, but also to the pleasure taken in the work itself. From the very first, every object given them to manufacture has some utility, even if it be no more than a plain pine box; and every lesson embodies some principle of construction in concrete form. These forms are typical and constitute a true alphabet in wood, and their combinations into useful articles spell out a thought just as really as a word expresses the idea of any object. A further and more complex evolution in joinery and wood-turning and pattern-making makes up a grammar and rhetoric in wood, and a literature even, when a genuine æsthetic spirit inspires the decoration.



The second year's teaching attempts as much of all this as time permits, and the sense of beauty, as well as of utility, is constantly stimulated in the pupil. This is greatly aided by the instruction in drawing, which begins with the pupil's entrance into the High School, and is carried on by alternate lessons with the hand-work. The wood-working course lasts two years. With a more stringent system and some additional hours per week, and with older students, this course could easily be completed in a single year; but we find it more advantageous to the pupil to make the training an incident of his development, rather than his business at school. Our experience is, that our method of instruction is more truly a training than if more urgently pressed upon the student, and affects more essentially his mental habits. We do not find that it interferes at all with his intellectual progress, but supplies to some extent the place of gymnastic exercises and amusements.

The third year in the High School is devoted to blacksmithing, foundry work, and other work in iron. What has been said about the alphabet in wood might be repeated in respect to typical forms in iron, though these seem less definitely ascertained. But by the time the student enters this course he is sufficiently disciplined in every way to work with purpose and intelligence. For the small number who are thoroughly unfitted through physical inability or inaptness from profitably pursuing this course, an advanced course in wood-work is substituted. Thus, when the pupil completes his three years' course in the High School, he is generally a fairly trained mechanic, though without the practice necessary to a successful artisan, which he may speedily acquire if he adopts such a career. If he does so, he is, as a rule, fully as well equipped in actual mechanical skill as the apprentice who has spent those three years at manual labor alone, while he has a more important possession in a disciplined and quickened intellect.

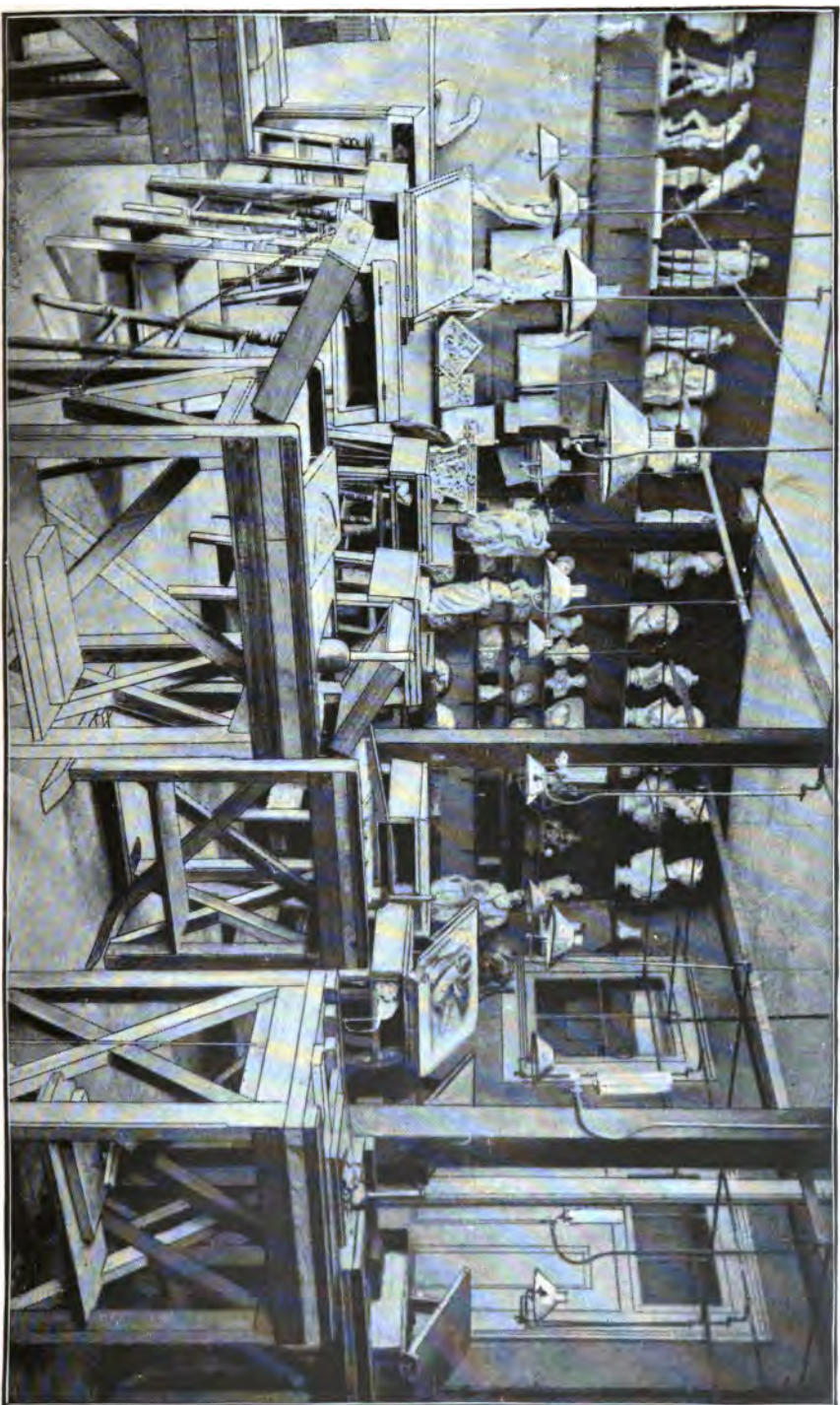
When the High School student enters Tulane College, if he selects the mathematical, natural science, or mechanical course, his shop work is continued through the freshman year, and this advanced work includes forging, filing, iron-turning, and foundry practice.



BENCH FOR VICE WORK, WITH DRAWERS FOR TOOLS.

derly practice. The students of the mechanical course pursue their practice one year more in machine construction, and, indeed, until graduation, have the opportunity for improvement in this direction.

It has already been mentioned that during the three years spent in the High School the lessons on alternate days were given in drawing. Without criticism of the meth-



WOOD-CARVING ROOM, TULANE UNIVERSITY MANUAL TRAINING SCHOOL.

ods of the manual training schools that I examined before organizing our own, and recognizing the difference in purpose which existed, I think we may fairly claim to have organized our drawing department with wider scope and greater thoroughness than any of them. The three years' course in the High School embraces about 425 hours of actual work in the class-room, during which the attention and instruction are constant. About 200 lessons are given to Freshmen in three of the college courses, and about 370 to the students in the mechanical course, leading to engineering, architecture, etc. This advanced work is varied to meet the special needs of the student.

Drawing is considered as a language, or mode of expressing ideas, and as being, therefore, not less important than linguistic study, on account of its disciplinary as well as its direct practical value. All the High School pupils are taught more or less of free-hand or mechanical drawing and design, according to their needs in the different courses.

The students are required to draw working plans, geometrical projections, and shaded representations in perspective of the objects they manufacture in the work-shops. They thus not only acquire skill with the pencil, but obtain and fix a vivid mental picture of the object itself. In this process the material thing is first conceived in idea, then portrayed, and finally manufactured, the mental conception being thus put into concrete form. It seems hardly possible that this can be effected without stimulating the imagination and intellect. While the artistic side is not altogether neglected, attention is directed mainly to the industrial aspects of the subject. The exercises consist mostly in drawing directly from the objects, while the pupil is also instructed in the various auxiliary geometrical problems and conventional devices which facilitate clear expression. The student is expected to observe constantly the relation of the object to the mode of its representation, and to become self-directing, without wasting time in copying the delineations of others. As the work advances the imagination is cultivated by the consideration of projections and shadows, and by drawing ideal sections, by sketching from memory, and by making original designs.

Time alone can reveal how far our method of manual training will prove a benefit to our students. Pursued in moderation, and with due reference to other important agencies in human development, we do not doubt its value. In our special condition in Louisiana, where this side of education has been almost wholly neglected, and where the demands are urgent for an education that will enable our more intelligent youth to take the lead in industrial enterprises of every kind, we are confident that we are pursuing a policy which, though practical, is yet neither sordid nor narrow, but essentially liberal and wise.

The administrators of the Tulane education fund recognize, as one of the important duties of the University to higher education, the enlightenment of the masses of the people and the elevation of the level of the public intelligence. Indeed, it is thus only that a proper *clientèle* can be provided in Louisiana, able and willing to receive the high education. With this end in view, and until other more direct agencies could be established to carry on such work, the University has afforded the public numerous courses of free popular lectures on the topics most interesting and useful to city audiences, much to their gratification and advantage. They have kept open a Free Reading Room, for which there is a special endowment. A Free Circulating Library was carried on for one year, until its administration was assumed by another public-spirited organization. A comprehensive Scientific Museum was opened to the public without charge. But the most inspiring and immediately practical work of the University for the public, outside of its academic instruction, was the inauguration of free classes in drawing.

The principal object of our free classes in drawing was to promote industrial education. The following extract from last year's report gives a full and fair account of the work accomplished.

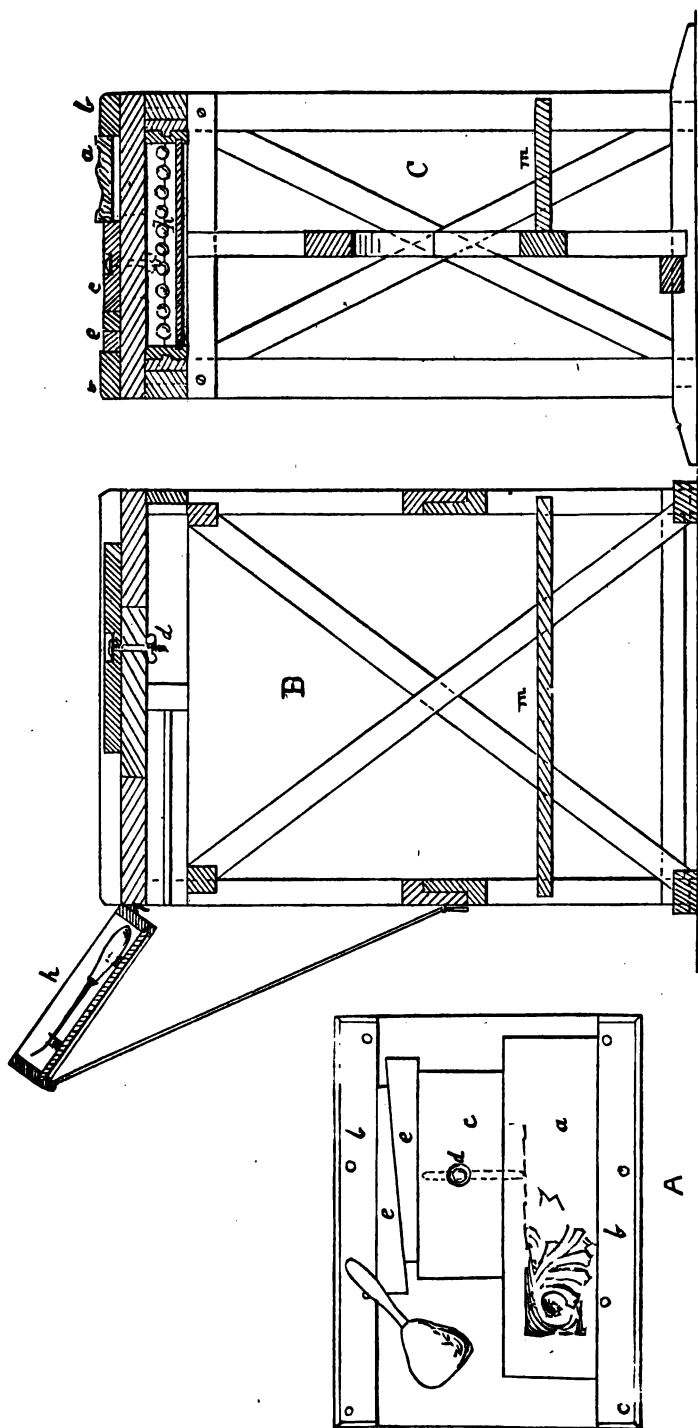


TABLE FOR WOOD CARVING.

A, Top of table. B, Longitudinal section. C, Cross-section: a, block to be carved; b, fixed cleats; c, sliding block, pressed hard against block a by wedges e, and secured by clamp d; h, tool drawer, in position for working, when not in use this drawer can be unhooked and slid into place, as shown in C.

FREE DRAWING CLASSES, SESSION 1886-87

The total admissions to the free drawing classes for the past session have been as follows:

Classes for women.

Saturday drawing, advanced	62
Saturday drawing, elementary	91
Saturday annex, No. 1	25
Saturday annex, No. 2	20
Saturday annex, No. 3	133
Class of methods, elementary	62
Decorative art class	118
Total number of women admitted	541

Classes for men.

Free-hand class, advanced	15
Free-hand class, elementary	35
Mechanical class, advanced	9
Mechanical class, elementary	45
Elementary, free-hand	7
Architectural class	17
Preparatory drawing class	170
Total number of men	298
Total admissions	839

About four hundred students followed the instruction earnestly and reached the required standard. Two hundred and forty-seven of these received certificates graded as "satisfactory," "meritorious," and "distinguished."

The mechanical drawing classes are modelled after those of Boston and Baltimore, which have reached an advanced position in the subject, and are intended to aid those mechanics who are striving to improve in their work, by acquiring this necessary language, by which they can develop the idea of the designer from his drawings or give form to their own ideas for others to perfect. Some practice in free-hand is included in the course.

The advanced free-hand evening drawing for men and youths, third year, has passed into the study of light and shade in charcoal, has done good work in the study of anatomy, besides completing the study of historic ornament and model drawing. This is the most advanced position reached in free-hand in all the classes, and the enthusiasm shown by its members has led to the organization of a sketch club for the study of local scenery. Of the fifteen students who entered this class, ten passed in the final examination.

The elementary free-hand evening drawing class for men and youths, second year, deals mostly with free-hand perspective, with some shading, the elements of historic ornament, and the proportions of the human head and figure.

The advanced mechanical evening drawing class for men and youths, third year, has occupied itself with the study and drawing of cams and toothed gearing of various sorts.

The elementary mechanical evening class for men and youths pursues mainly the study of solid geometry and the making of working drawings from wood and iron, details of construction, with the study of helical and other curves and their applications, also projections and shadows.

The architectural evening drawing class for men and youths took up mechanical perspective as applied to buildings, and carried on the study of historic ornament and free-hand perspective.

The preparatory evening drawing class for men and youths was introduced this session, to raise the grade of the work done in the other classes. The work of this class is a combination of mechanical and free-hand drawing, so arranged that the student may elect at the end of the session whether his study for the next year shall be purely free-hand or mechanical. All the above classes have attended six months, two evenings a week.

In the evening decorative art classes for women the first year's work has embraced outlining with chalk and charcoal, the elements of design, both in conventional and natural forms of flowers, foliage, etc.

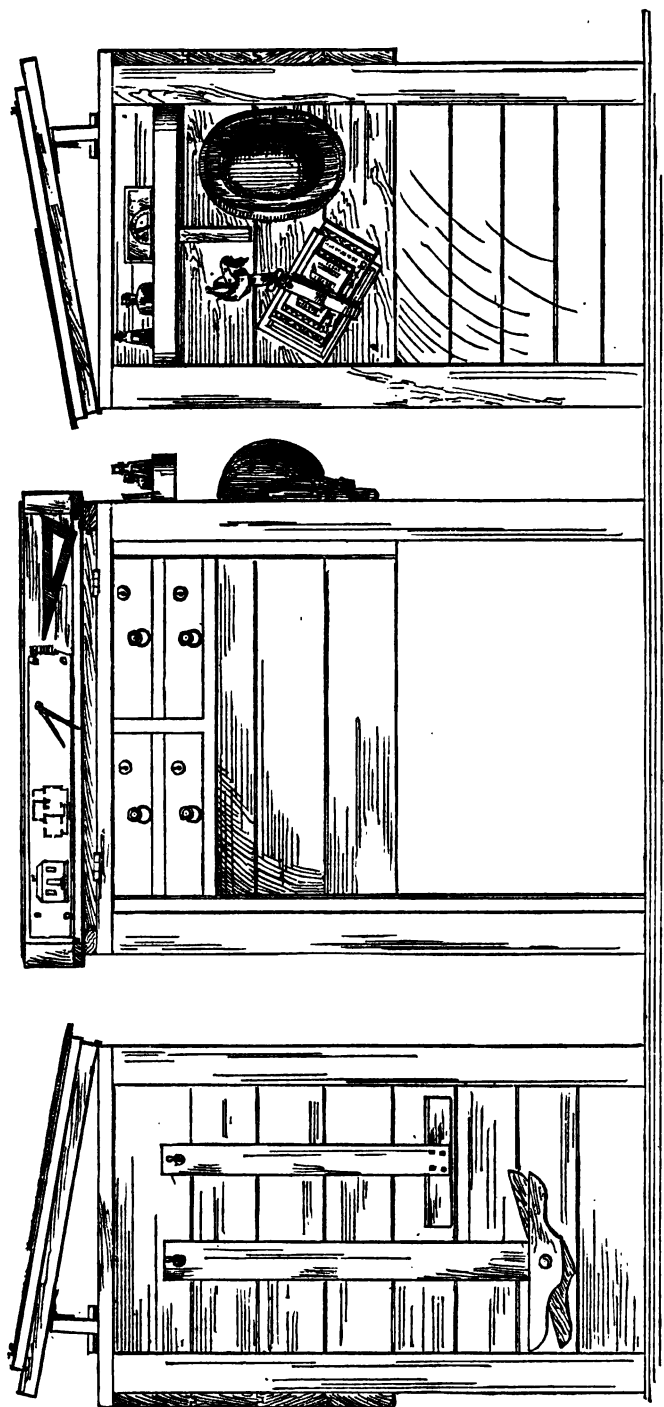


TABLE FOR MECHANICAL DRAWING.

This table has an adjustable top, and four drawers for instruments, for students of four successive divisions.

The second-year class was divided. One section, having been instructed by Professor Ordway in the use of tools and wood-working, devoted the remainder of the session to clay modelling and wood-carving, in which lines good work has been done. Another section of this class, having elected to follow the study of color, has been practising with designers' dry colors. Too much praise cannot be given to the students who have devoted two sessions to drawing from the natural flowers and foliage. Some of the drawings of flowers show a fidelity to nature equal to the best.

The Tulane Decorative Art League is an outgrowth of this class. Art pottery, wood-carving, fresco, and art needle-work are a few of the subjects which have been more or less developed. The interest in pottery has taken the form of the New Orleans Art Pottery Company, which has been organized by members of this class. Art needle-work has also received attention, and members are prepared to form classes and give instruction in this branch of art.

The Teachers' Saturday class of School Methods treats drawing as a branch of common school education, and instruction has aimed at a symmetrical course, to include the most important branches.

The study of form surface and design is carried on by the use of clay modelling, cutting paper, arranging sticks, rings, and blocks, followed by practice in the use of scale drawings and flower forms from nature. In the second year the study is enlarged to include the elements of shading, and the test for the class has been the ability to represent the appearance of objects in outline.

Our free drawing classes, organized last October, foot up with the following summary, February 1, 1888. The numbers before the close of the session will probably about reach those of last year.

SATURDAY CLASSES.

Teachers' class in methods, first year.....	121
Teachers' class in methods, second year.....	43
Drawing, preparatory.....	196
Drawing, second year.....	79

EVENING CLASSES.

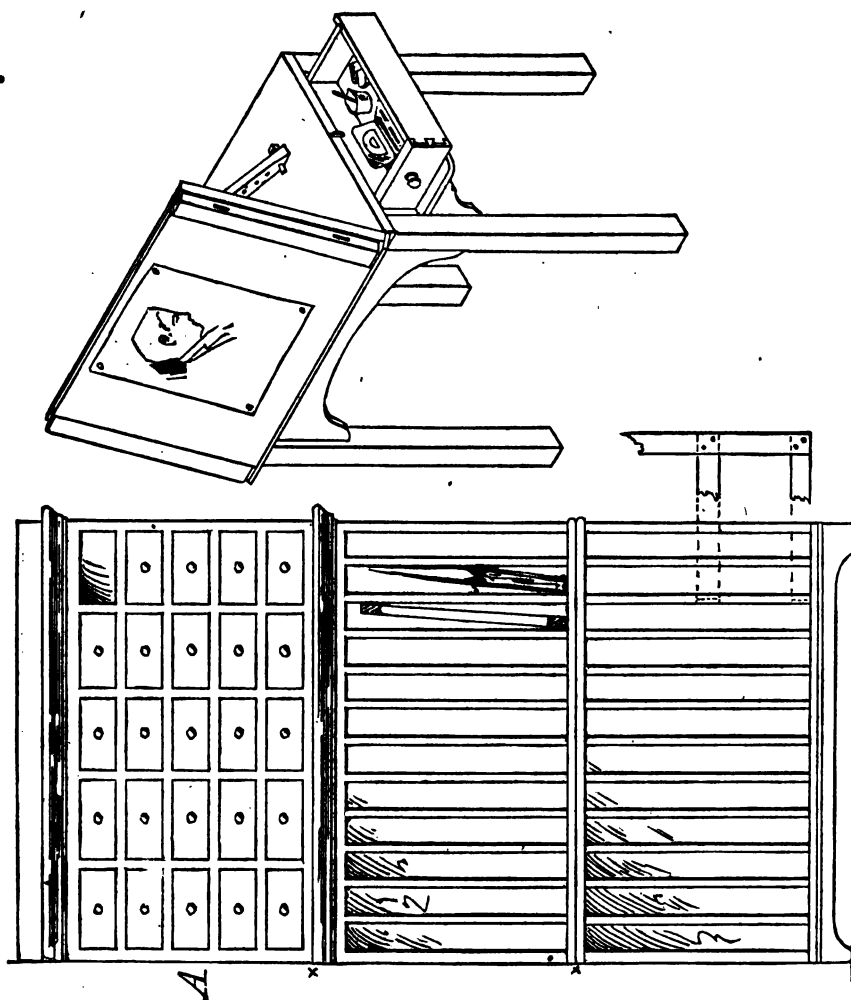
Decorative Art class for Women.....	74
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For men.

Advanced free-hand, fourth year, 6 }	57
Advanced free-hand, third year, 20 }	
Advanced free-hand, second year, 31 }	
Advanced mechanical, fourth year, 3 }	79
Advanced mechanical, third year, 11 }	
Advanced mechanical, second year, 65 }	
Architectural drawing.....	14
Preparatory drawing class.....	114
Total.....	777

The classes are now more fully organized than last year, and work with a clearer purpose and greater steadiness. The character of the work, too, is higher and better. It is confidently believed that we are laying a firm foundation, upon which a solid structure both of skill and culture in art may be built in New Orleans. That our work is germinal is evinced by the frequent employment of our pupils as teachers, and the more general diffusion of taste for and interest in industrial art and the fine arts here.

A number of lady pupils, who have taken their initiative in industrial art in the free drawing classes, have, since the opening of the H. Sophie Newcomb Memorial College for white girls and young women as a department of Tulane University last October, joined its art classes for the prosecution of their studies in the higher branches. In that college all the branches taught in the free drawing classes may be pursued with a more liberal allowance of time.



DRAWING TABLE FOR LADIES.

The instruments are kept in drawers in the case A, which has spaces below for portfolios and drawing boards. The

On the whole, Tulane University adds its testimony to that of the other institutions which are giving a trial to manual training by a verdict of unqualified approval of it, both in theory and practice.

I am, very respectfully, yours,

WM. PRESTON JOHNSTON,
President.

ART AND INDUSTRIAL TRAINING IN THE H. SOPHIE NEWCOMB MEMORIAL COLLEGE,
TULANE UNIVERSITY.

The study of drawing for girls at Newcomb College is made an important branch in all the courses, and is required in one course, the industrial, in which it can be pursued to graduation.

The elements of line drawing as applied to the principles of representation, both in working drawings and in perspective, and to beauty of curve and harmonious combination in decoration, are taught during the first two years, to all alike, with quarterly examinations as tests of proficiency.

The students are instructed in the elements of practical geometry, plane and solid, and acquire delicacy and skill in the use of mechanical instruments in inking their works. During this time students are expected to acquire the knowledge and skill to represent correctly the outlines of objects, fruit, flowers, etc., as they appear, and to make a practical working drawing of any simple piece of furniture. They begin the study of historic ornament in line drawing and flat washes, and also take up the elements of shading.

After the second year the students attend the different studios for practice in the following branches: Outlining and shading from plaster casts; making color studies of historical styles of ornament and color design for interior decoration; painting from natural foliage, or group, in water color or oil color; drawing in charcoal and modelling in clay from antique sculpture; wood-carving; pottery and china decoration; and, finally, drawing and painting from life. To this will be added, in the industrial course, instruction in the principles of architecture, as applied in the construction and design of dwelling-houses and other buildings.

There is also a normal class for teachers of art and industrial design. Its graduates, before receiving a diploma, must have completed all the studies named, and acquired a knowledge of their applications to various kinds of schools by practice in teaching the lower classes, under the supervision of a professor.

FLOOR PLANS, TULANE UNIVERSITY MANUAL TRAINING SCHOOL.

[See Plates.]

I.—UPPER FLOOR.

- A, Carpenters' shop with thirty benches, each having two drawers for tools, and four closets.
- B, Wood-turning and pattern shop.
 - (a) Elevator for stock; (b) large lathe; (c) double circular saw; (d) grindstone; (e) buzz planer; (f) jig-saws; (g) thirty benches, with lathe on one side and joiners' table on the other.
- C, Mechanical drawing-room with sixty-two tables. These tables have been crowded somewhat, so as to accommodate large free evening classes in drawing.
- D, Reception room.

II.—MIDDLE FLOOR.

- E, Gallery for iron stock and water-tanks.
- F, Lumber gallery.
 - (g) Circular saw; (h) emery grinder.
- G H, Free-hand drawing-rooms, with seventy-two and twenty-four desks, respectively.

III.—GROUND PLAN.

I, Blacksmiths' shop, with thirty forges.

J, Iron-working room.

(*l*) Engine; (*m*) grindstone; (*n*) machine-drill; (*o*) hand-drill; (*p*) iron-planer; (*r*) shaper; (*s*) speed lathes; (*t*) engine lathes; (*u*) vice benches.

L, Wash-room.

(*v*) Hot-water tank.

M, Boiler-room.

N, Wood-carving room.

(*w*) Clay-modelling tables; (*x*) carving-tables.

O, Chemical laboratory.

P, Wash-room.

WASHINGTON UNIVERSITY MANUAL TRAINING SCHOOL.

St. Louis, Mo.

[Statement of Director C. M. Woodward.]

ST. LOUIS, MO., *January 28, 1888.*

N. H. R. DAWSON, Esq.,

U. S. Commissioner of Education, Washington, D. C.

DEAR SIR: I have the honor, in compliance with your request, to submit the following brief statement of the organization, course of study, and daily programme of the St. Louis Manual Training School, together with a summary of some of the more obvious results of the training afforded by the school.

The school was organized under the charter of Washington University, and opened in September, 1880; it has consequently been in operation seven and one-half years. It is an academy for general secondary education, though in consequence of its special manual features it was named the Manual Training School. Under the general control of the University board it invites properly qualified pupils from all communities.

A moderate rate of tuition—about \$75 per annum—is charged those who are able to pay. About one-fourth of the pupils are, in consequence of limited means on their part, and through the aid of a generous endowment, placed on the free, or nearly free list.

The Junior, or first-year class, consists of a maximum of ninety-six members. Candidates from the public schools should, in general, have completed the eighth grade, or be prepared for a city high school. Those who present certificates of having completed the district school course in St. Louis are accepted without examination. No boy whose age is less than fourteen years is examined.

The written examination comprises arithmetic, through interest; geography, including map-drawing from memory; English composition, including spelling and the correction of false syntax. * * * In the examination no account is taken of mechanical tastes or technical skill. It is not till the students have been fairly trained on all sides that their tastes and preferences are worthy of much consideration.

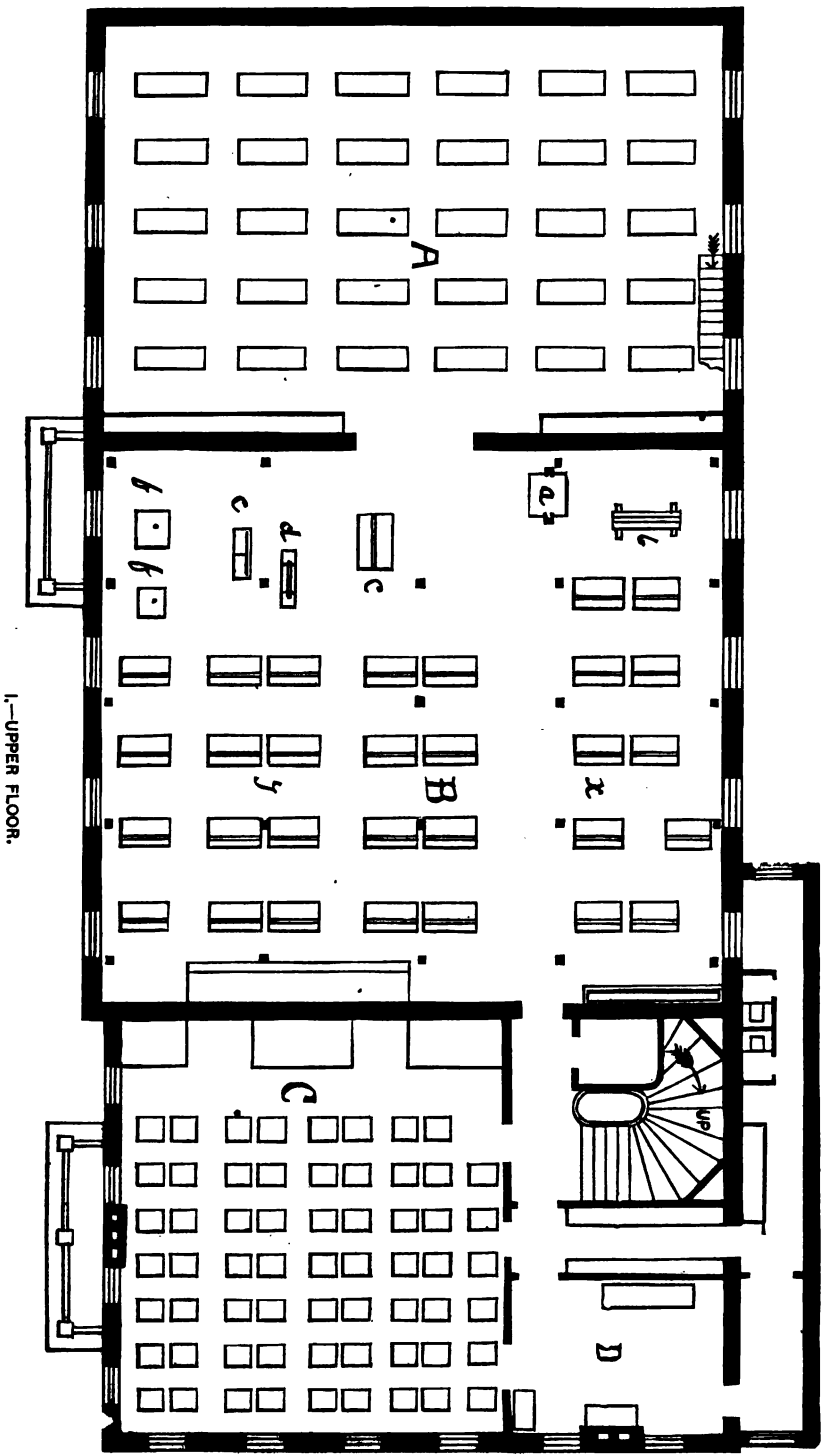
THE COURSE OF STUDY

extends through three years. Except in the literary work no choice of subjects is allowed. All must be taken in regular order as laid down below:

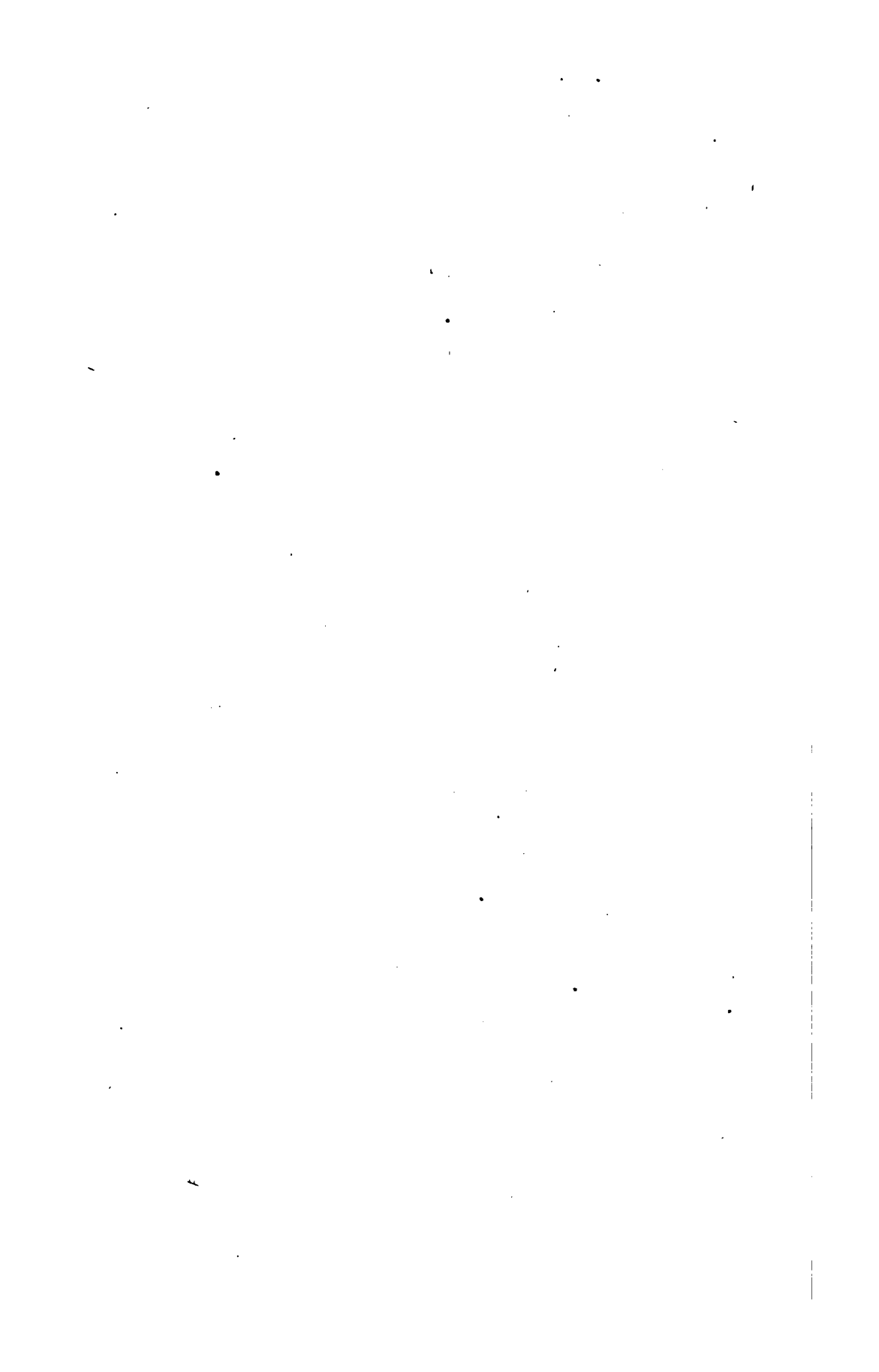
First year.

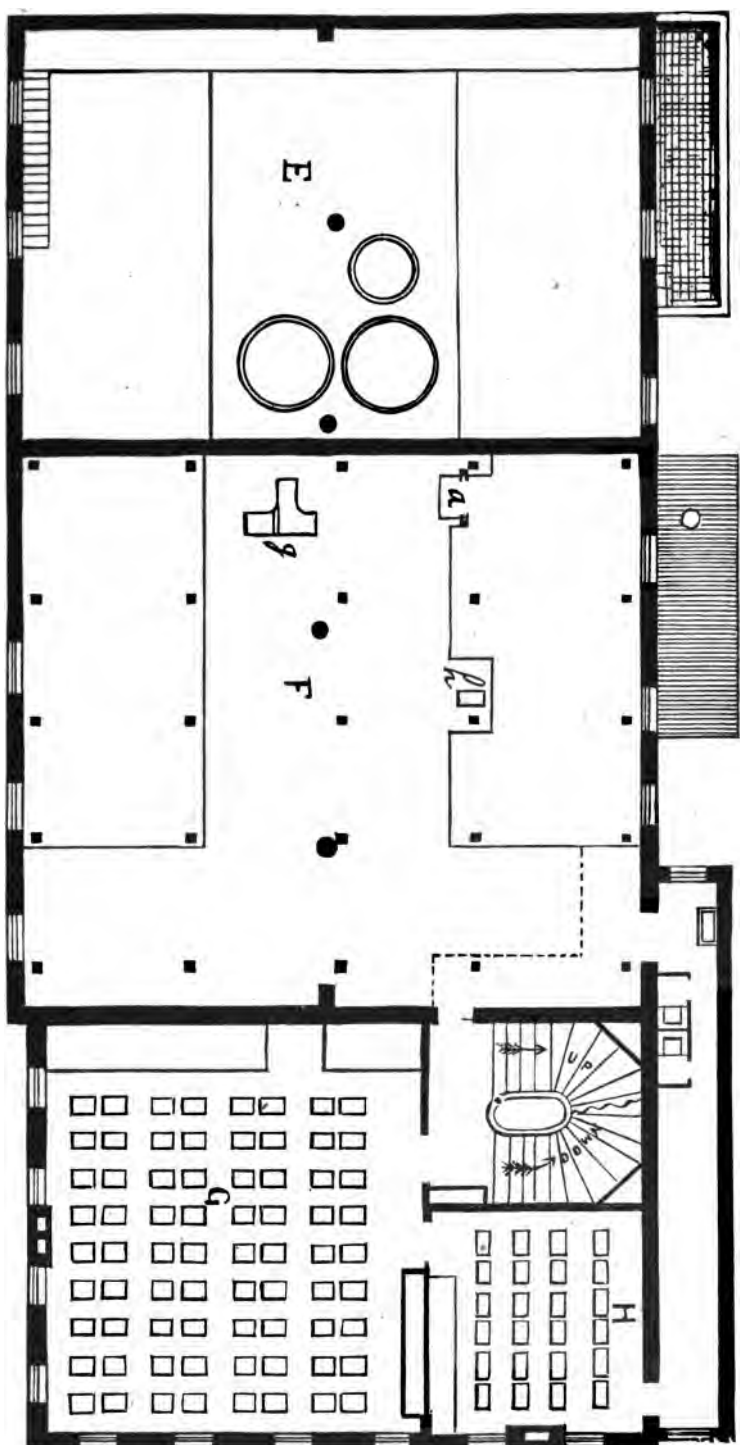
Arithmetic completed; algebra to equations.

English language, its structure and use; study of selected pieces; history of the United States.

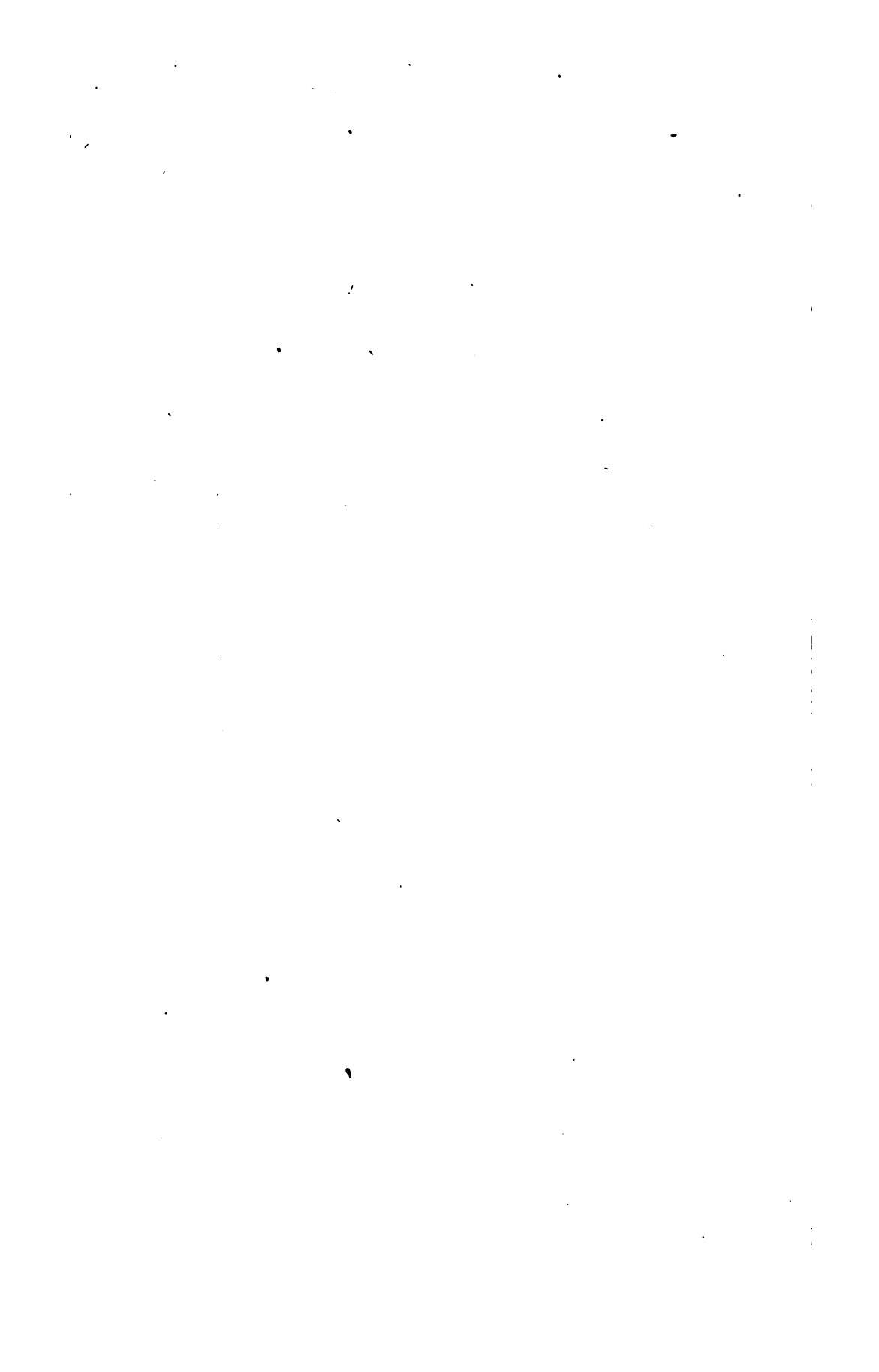


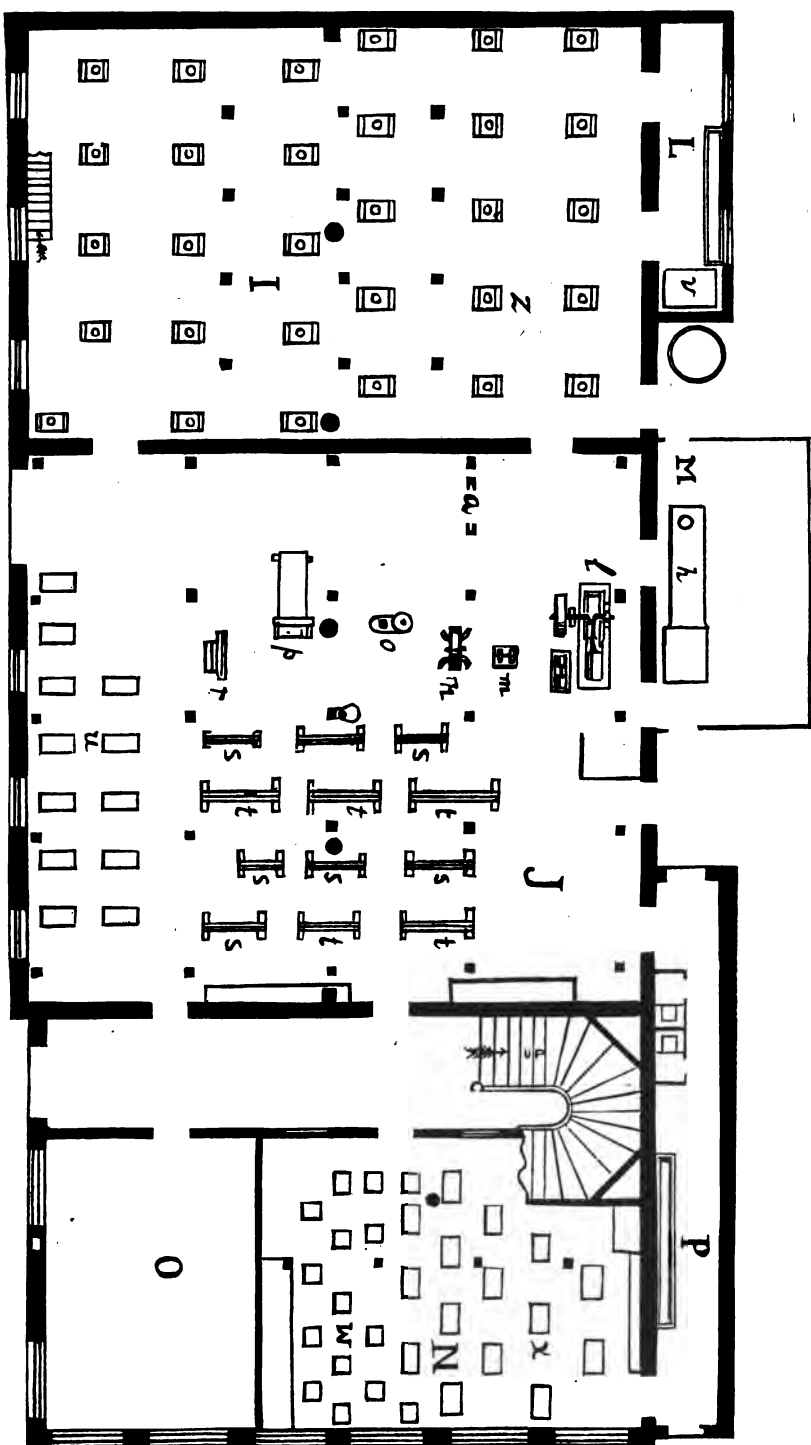
1.—UPPER FLOOR.



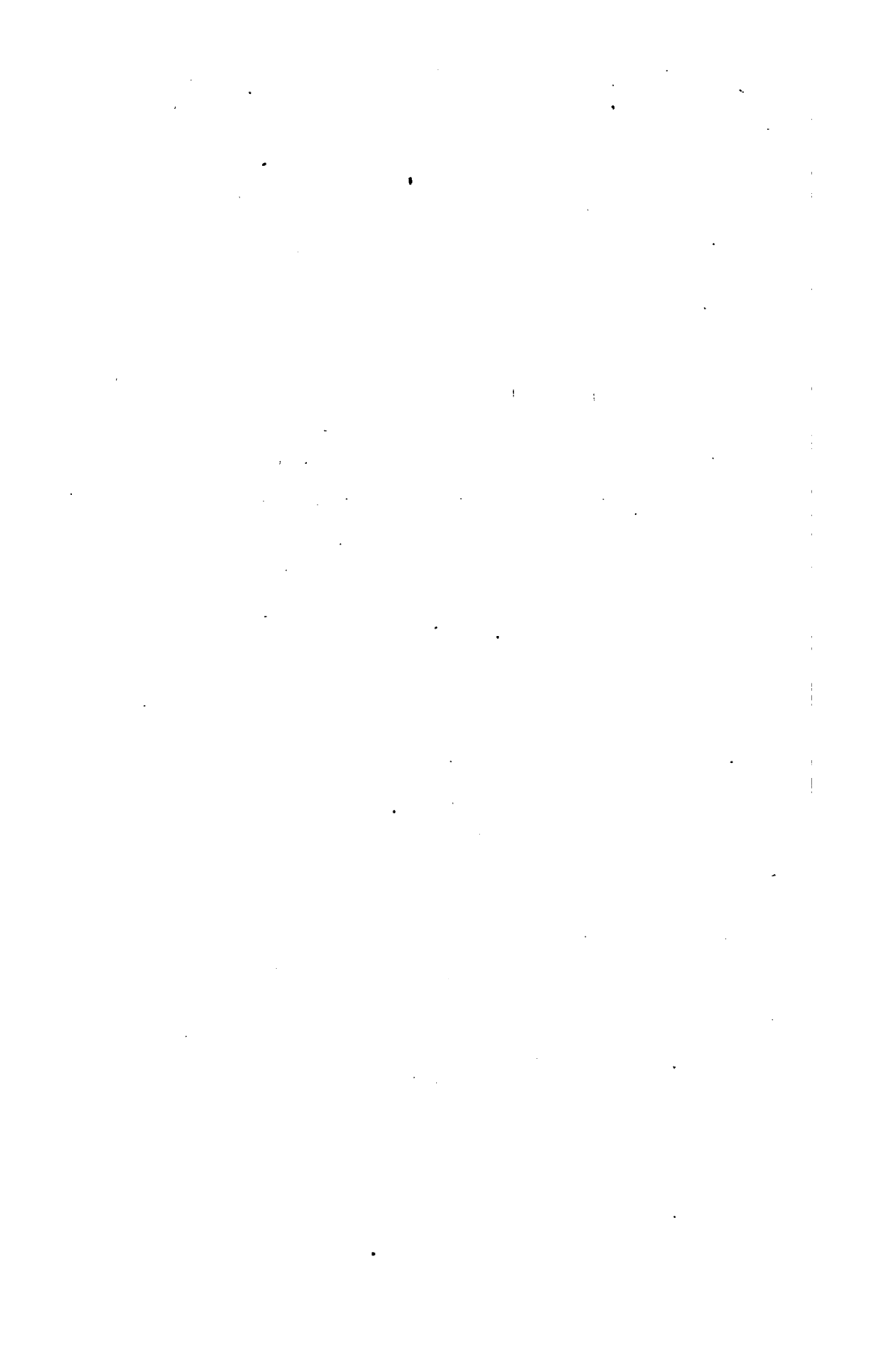


II.—MIDDLE FLOOR.





III.—GROUND PLAN.



Latin grammar and reader may be taken in place of English.
 All students have English composition once a week.
 Huxley's Introduction to Science; physical geography; botany.
 Drawing, mechanical and free-hand; penmanship.
 Carpentry and joinery; wood-carving; wood-turning.

Second year.

Algebra through quadratics; geometry begun.
 Natural philosophy; experimental work in the physical laboratory.
 English composition and literature; rhetoric; English history.
 Latin (Cæsar) may be taken in place of English and history.
 Drawing: Line-shading and tinting, machines; development of surfaces, free-hand detail drawing, isometric projections.
 Forging: Drawing, upsetting, bending, punching, welding, tempering; pattern-making, moulding, soldering.

Third year.

Geometry, plane and solid; mensuration.
 English composition and literature; history; elementary political economy, and civics; graduating essay.
 French may be taken in place of English and history, or in place of science study.
 Physiology; elements of chemistry. Students who have taken Latin, and who intend to enter the polytechnic school after completing the course in this school, take history and rhetoric in place of physiology and chemistry.
 Book-keeping.
 Drawing: Brush-shading, shadows, geometrical and architectural. An elaborate finished drawing closes the course.
 Work in the machine-shop: Bench work and fitting, turning, drilling, planing, screw-cutting, etc. The making of a project.

THE CORPS OF TEACHERS.

For the proper instruction and training of the students the director is furnished with a corps of twelve accomplished teachers, of whom four are exclusively engaged in tool instruction and the methods of workmanship; two give instruction in drawing and penmanship; and six teach mathematics, science, and literature, as in an ordinary high school.

THE DAILY PROGRAMME.

In the school two hours per day are given to shop-work, four hours to recitation, drawing, and study. The school opens in the morning at 9 o'clock, and closes in the afternoon at 3.30. Two or three hours of home study are required daily.

The school furnishes shop tools and materials.

Trades are not taught. The tool instruction is broad and universal in character. The aim of the school is not to make mechanics, but men of intelligence, handiness, and judgment. The products of class exercises in the shop have no commercial value.

THE MANUAL OUTFIT.

The capacity of the school for manual work is indicated by its apparatus, as follows:

- 48 drawing stands.
- 48 wood-working benches and 96 sets of hand edge-tools.
- 49 wood lathes and 96 sets of turning tools.
- 22 forges, anvils, and sets of tools.
- 17 engine lathes, fully equipped.

5 speed lathes for metal work.

1 large and 1 small planer.

1 shaper, or "jumper."

1 large and 1 small power drill.

A good supply of benches, vices, hand-tools, etc., for the fitting shop.

The power is furnished by a 50 horse-power engine.

THE RECORD OF GRADUATES.

The number of students attending the school last year was 230. The number who were graduated, receiving the diploma of the school, in June last was 52. Of these at least 18 have entered either this University or elsewhere as Freshmen; a majority of these advanced students will become engineers, architects, or teachers. The school thus proves to be a most successful preparatory school for higher education. Those who have gone to work have scattered into a great variety of occupations, the greater number finding opportunity to profit by their knowledge of tool work and workmanship. The tendency towards responsible and lucrative positions is highly marked. The following list of occupations includes all the graduates of the first three classes, 1883, 1884, and 1885:

Students of engineering, law, or medicine.....	20
Clerks.....	22
Teachers.....	10
Draughtsmen or architects.....	10
Machinists.....	6
Artisans: Pattern-maker, bricklayer, shoemaker with power machine, moulder, electrician.....	5
Farmers or ranchmen.....	4
Business men.....	6
Foremen or superintendents.....	4
Ticket agent.....	1
Engineers, mechanical, civil, or mining.....	7
Manufacturers.....	6
Total.....	98

Over a year ago the average monthly wages of those in the above list who were earning regular wages was about \$74. Their average age at that time was twenty years.

In the higher classes of the University I am daily brought in contact with graduates of the Manual Training School, and I have abundant opportunity to observe their mental and moral characteristics. My observation confirms the unanimous verdict of my fellow professors, to the effect that manual training is almost indispensable as a preparation for higher scientific or professional training. It gives great power of close examination and logical analysis. It encourages habits of precision and system in planning and executing tasks. It makes many things possible in the laboratory and class-room which would otherwise be almost out of the question. When a student turns to his draughting instruments and to the bench, lathe, or anvil as naturally and with as much confidence as to his table of logarithms or his dictionary, he occupies a vantage ground which his fellows are quick to recognize.

As to the ability of our graduates to step to the front in the line of practical mechanics, I take the liberty of quoting from the letter of the general foreman of a large system of railway shops, sent in answer to an inquiry as to the outcome of manual training.

As an employer, I will say for several of the Manual Training School boys I have working for me, that they will in one year accomplish as much as the ordinary boy [who has not received the training the Manual Training School gives] will in three. For example, I have two boys working side by side, one from the school, and the other an uneducated boy; the former has been working here nine months, while the latter

has been here over three years, and to-day the boy from school will do better, cleaner, neater, quicker work by far than the other boy. One boy learns the trade by imitation, while the other learns it by reason and study. The boy from the school is more precise and neat about his work, grasps a new idea more readily, looks upon new features of the business with greater intelligence, and is better able to direct others and to bear responsibilities. He has better command of language and can impart to others the ideas he wishes them to obtain. When a difficult point arises, the school boy will labor with it until he conquers it, while the other boy will study a while, then give it up. Were I to need a clerk, apprentice, or draughtsman, I would and do give the Manual Training School boys the preference, because I get much better results with less trouble.

The above letter I quote from my book, *The Manual Training School; its Aims, Methods, and Results* (D. C. Heath & Co. Boston, 1887). Chapters V and VI are devoted to the "Results." I am tempted to add, as a final word, the testimony of a graduate himself (one out of two hundred) and the work he is doing. He says:

The principal part of my work is the making of wood and brass patterns and core-boxes, and keeping them in order; I also do the greater part of the drawing for the shop; but I am by no means limited to these, as, for the last three or four days of each month, I am called to help get work out, and to help Mr. Jones figure, etc. * * * *I usually get the work that is out of the ordinary line.*

Your obedient servant,

C. M. WOODWARD.

II.

THE NEED OF EDUCATED LABOR IN THE SOUTH.

AN ADDRESS BY W. H. COUNCIL, PRINCIPAL OF THE ALABAMA STATE NORMAL AND INDUSTRIAL SCHOOL, MONTGOMERY, ALA.

[The following address was delivered at a recent session of the Alabama State Teachers' Association (colored). As a plea for the industrial training of the negro, made by one who is himself of that race, it has been deemed to possess sufficient value to be published in this connection.]

Like the Sphinx, which stands peering down through the mists of ages, caste, founded upon occupation, is becoming a thing of the past, and will soon be found only in the dim and antiquated annals of Egyptian and Oriental aristocracy, monarchy, and oppression. Some of the deleterious atmosphere from this Upas of Orientalism was borne across the seas to mix with our new civilization; but affinity is lacking, and it is being driven out by the beams of our Christianity, which adorns, dignifies, and elevates honest labor. Here the honest toiler, faithfully filling his sphere in life, is a man, the equal of the Chief Magistrate of the nation.

The professions were long erroneously regarded as the ruling positions in industrial society. This place-worship caused manual labor to despise itself. The professions have been sought, also, on account of their supposed ease and affluence, and this mistaken idea has become a stone of stumbling and a rock of offence to countless thousands.

My paper will be confined to the South, because we are more immediately concerned about its welfare; and I hope that I shall not be considered narrow if I limit this necessarily brief discussion to the Negro of the South. We are to deal with him. It is to him that we must go, holding up high the torch of Christianity, education, and industry. In God's name we must bring him into the light of this age of Christian civilization. We are to seek him in the attics and damp cellars of the cities; we are to seek him in the fertile valleys and upon the unyielding hill-sides, and pour into him the elements of true manhood.

The conditions of labor in ante-bellum days had a tendency to create a wrong conception of the responsibility and honor of labor.

It is true that the planter, surrounded by his hundreds of slaves, dictated the policy of Southern institutions, and beside this planter professional gentlemen were social and financial pigmies. The planter was simply a nominal agriculturist. He did not even come in contact with his slaves. His children did not labor. The management of his affairs was generally committed to the charge of men who were regarded to be of humble birth and station in society. The negro performed all the work, until finally nearly all Southern whites came to regard labor as the natural inheritance of the negro, and they willingly conceded his right to monopolize it.

Black man was only another word for workman, and this idea, coupled with that of slavery, brought manual labor—in fact, labor of every kind—into great dishonor.

It was a natural sequence of this condition that the negro should regard labor and slavery connected by the unholy bonds of thralldom, and ease and leisure and unearned comfort as the concomitants of their divorcement, or the invariably necessary

attendants of emancipation. His ideal freeman was one of leisure, a man who could dress well, who stood idly around public places and discussed current events. For this reason 1870 found an unnaturally large percentage of the race engaged in politics, the ministry, and other supposed easy vocations. Those who are acquainted with the history of those times know these to be stubborn and stern facts, although painful to us.

But notwithstanding this unreliable and unsettled state of labor, there were certain influences which held the negro in the labor market, and which to-day give to him the control of a large part of that market in the South, and I hope he may keep this control forever.

As leaders of the race, as moulders of race character, as guardians of the interests of our people, we must strive to prepare them to maintain their present vantage ground in the labor market of the South. We want places for our boot-blacks, barbers, porters, cooks, washerwomen, chambermaids, carpenters, masons, blacksmiths, farm hands, manual laborers, and domestics of every kind.

If we succeed in procuring and securing these for and to our people, the few ministers, lawyers, teachers, doctors, and journalists will care for themselves.

The negro population of Alabama is 600,102. Of this number 39½ per cent., or 237,000, are bread winners. Ninety-nine per cent. of these bread winners are engaged in agriculture, personal and domestic service, including a small but increasing per cent. in mining and manufacturing. It is thus clearly seen that not exceeding 1 per cent. of our race in this State is engaged in professional pursuits. What is true of Alabama is true of the whole South.

Our few professional laborers must realize the fact that they are dependent upon the 99 per cent. for support, and not the 99 per cent. upon them. But there is somewhat mutual dependence. The Brooklyn bridge, that mighty consummation of genius and architectural skill, has only a few massive pillars and great iron cables. These do not make the bridge. But there are hundreds of bolts, bars, screws, nuts, and nails, without which there would be no Brooklyn bridge to challenge the admiration of the mechanical world.

As I have above intimated, the conditions of labor in the South have produced abnormality in both servant and master classes—employer and employé. But with the new life coming into the New South, superior labor, and greater excellence and competency will be demanded. In every walk in life more skill and reliability will be required. Purely business principles are becoming the woof of our industrial warp. The abnormal standard of labor accomplishments is the outgrowth of ante-bellum institutions, and has been sustained by the frailest of props, sentimentalism. Those institutions being changed by the new conditions and relations of master and servant, the laborer of the future must stand or fall on his own merits.

Right here in the South a new element of competition is seeking to enter the labor market, formerly monopolized by the negro. The daughters of the ex-masters are learning to do work which formerly was performed only by the slaves. The sons are becoming expert in many things which, fifty years ago, were left exclusively to the negro. In fact, day by day shows that the negro is no longer conceded to be the sole and rightful ruler of the labor market. His heretofore undisputed right of inheritance is being sharply contested by Southern white boys and girls in every avenue which produces bread and leads to wealth. Besides this competition, there are a quarter of a million of able-bodied white men and women, common laborers and domestics, in the State of New York alone, who would be glad to seek occupations in Alabama if negro labor were not preferable. As I have said before, this preference for negro labor, at present, has its most powerful support in sentimentality, and the influx of Northern people introducing Northern white servants may lead to the displacement of the negro in such a measure as to drive him from many occupations which now supply his food and raiment.

Here is food for serious reflection on the part of those to whom God has given this important work of elevating the negro race in the South.

What shall we do to keep the negro laborer in the market?

We must educate him in the fundamental principles of a common school course; develop his consciousness of truth and justice implanted in every human heart by the Almighty, and give him that industrial training which will make him such a factor in our industrial mathematics that he can not be thrown out without serious detriment to the labor problem of the South. This education, development, and training should proceed, from the earliest intelligential susceptibility, conjointly and systematically. In regard to the period of commencement of the training of a child, Oliver Wendell Holmes says it should begin a hundred years before the child is born. Dr. Josiah Strong says: "If a community produces or fails to produce good citizens and able men, the records of the founders will rarely fail to afford an explanation, for the influence of the early settlers continues operative until their descendants are displaced by some other stock." As a body set in motion continues, unless acted upon by external influences, to move, so character and principle, good or bad, in a people move on from generation to generation, until a new race comes upon the stage, or external forces check the old motion and inaugurate reform. This external influence and reform is the need of the labor element of the South to-day, in view of the conditions and relations herein above mentioned.

The character of education necessary to check these baneful influences and set in operation new and healthful energies is no hard question for us to determine, if we can thrust aside the delusions and surmount the prejudices of centuries that have favored university and college education.

I do not undervalue the benefits of higher education to the world and science. But it is not only not a necessary ingredient in popular education, but it would prove a dangerous element under present methods. It always has been, and from its very nature and utility, always will be, confined to a puny minority of mankind.

The negro has poorly developed powers of discriminative judgment, and it is but natural that all should want their children taught branches of study without any reference to the future occupations of those children, often insisting that the classics be included in the curriculum. And strangely enough, many of our teachers are too willing to encourage this nonsensical worship of learning for learning's sake. We ought not to regard learning as an end, but as means to an end. The end of all knowledge should be the useful and the good.

In a healthful state of economy demand precedes supply. I fear that this principle is not observed by our universities and colleges. I greatly fear that we are throwing into the community many young people educated beyond the ability of effective assimilation with the balance of the race, and, must I say it?—educated beyond their legitimate sphere according to the demands of the age and the requirements of the race. Education in the hands of an evenly and roundly developed constitution, expanded in the line of truth and industry, is what a new sharp hatchet is in the hands of a good boy. It is an instrument to repair and build. But education under other conditions is as the hatchet is in the hands of a bad boy, a vicious boy—an instrument of destruction and mischief, by which the little criminal cuts and hacks his way into the prison and down to perdition. Industrious, virtuous ignorance is preferable to idle, vicious intelligence. Industrial training is as necessary to the education of an individual as oxygen is to the composition of common air.

We need not only the theory, but practical industry taught in all of our common schools. We must instil into the minds of the youth that "Labor is one of God's greatest gifts to man;" that labor has led man from the lowest grades of fetichism up to the true God. We want housekeeping taught as well as grammar. We need a cook-book in the hands of our girls as well as a geography, the mechanical arts as well as history. The battles of Thermopylae, Marathon, Carthage, Babylon, and Waterloo, in which only a few millions were engaged and only a few hundreds of thousands

were left dead and dying upon the field, are not to be compared with the battle being fought to-day for bread by one and a half billions of souls, and where ignorance and wrong leave millions of dead and dying upon the field.

One Cuvier is sufficient to arrange the present animal life into tribes, and marshal into beautiful and symmetrical rationality the fossiliferous and fragmentary remains of ancient and extinct generations. But the nation needs one half of a million of persons to handle the animals required in our market.

One Linnæus is sufficient to discover the sexuality of plant life and give to vegetation a phytological classification. But seven millions of beings are needed to cultivate the plants necessary to supply our nation with food and raiment.

We need comparatively few young men who can grapple physico-theology and metaphysical sciences; young men who can take the wings of thought and imagination and sound the depths of the universe, measure the breadth of creation, and plow through the deep, sublime, serene ocean of limitless thought; who can grasp the flying clouds of erudition, and from them forge shafts of intellectual electricity to hurl from the mortars of logic, carrying admiration or consternation, reformation or revolution, into the ranks of mankind. But the plodding millions move on as they have moved since the human family set out on its plodding march through time, and the plodding millions will continue to be plodding millions until matter shall, at the command of God, creep back into the womb of nothingness. What most concerns these millions is the getting of bread—the struggle to occupy middle ground. We must teach them a way of getting a living, and of living. We can not hope to move the mass at once, but individual training will be found to be the lever by which the mass may be raised. Guizot says, "The prime element in modern European civilization is the energy of individual life, the force of personal existence."

A learned man has laid down the following educational platform, which I adopt:

"In order to the common weal there are, in general, four things that an adult man or woman ought to know; four things, therefore, that the State ought to see that its children have a fair opportunity to learn, namely, to think, to work, to behave, and to love their country."

Does any one doubt that is the correct principle of common school education? Will any one assert that this is the principle adopted and operated in our common schools? We have been giving our young people a certain class of learning at the expense of the hand and heart, and we have succeeded in throwing into the body politic the germs of agnosticism, idleness, and socialism.

Truth is a cardinal virtue, and should be the foundation of every human pursuit and institution. We all are painfully familiar with the appalling lack of this virtue among the laborers of to-day. Nine-tenths of our workingmen never stop to think of the importance of faithfully keeping an obligation to begin work at a certain time, or finish it in a certain style, or complete it at a given hour. How often have our blacksmith, carpenter, and shoemaker disappointed us? Now, we seldom expect to find our roof patched according to agreement. We never expect the work to be begun until several days past the appointed time. This lack of truth, and the absence of a feeling of high responsibility on the part of the laborer, are a source of great annoyance and many losses. These things can not be overcome except by trained labor, guided by ethical rules.

There are two hundred and sixty-five occupations followed by the citizens of the United States. Only ninety-eight are plied in Alabama and most of the other Southern States. With the development of the varied natural resources of the State a very large percentage of the other occupations must be introduced, as well as the present ones improved. To meet these changes on a high ethical and skilled basis, labor must be trained by a wise method of common school instruction vigorously prosecuted.

The South is being transformed almost magically from the state of desolation in which slavery and the War of the Rebellion left it, to the most active industrial theatre of the world. On account of the advanced state of the civilization coming

into the South, our labor can not be developed by the old methods. This new wine of industrial fermentation will not be safe in the old labor bottles, any more than the skin bottles of the first century would subserve our chemical experiments of to-day.

If the laborer could have climbed up, step by step, through the centuries with this high civilization, he might have developed by the old processes. But this civilization has burst upon the South like a flood of golden light from the great sun, without premonitory dawn and mellow beams, the forerunners of the king of day, and the South has become one vast workshop in a single generation. Will any sane man say that our future laborer will be prepared to join this industrial procession without industrial training? The decision of experience, the judgment of time, dictate the wisdom of the popular drift in enlightened countries to industrial education. It is said that every member of the imperial family of the German empire must learn a trade.

When a boy leaves any one of our common schools he should go as well prepared to enter the battle of life, on biological principles, as the cadet who passes muster at West Point or Annapolis is to defend his country from invasion or to punish a disregard of its flag wherever its citizens tread the globe.

We need, most of all, educated labor to prevent crime. The old adage that an idle mind is the devil's workshop is as true as the philosophical axiom that all bodies are in space. I heartily agree with the writer who said, "Industrial ignorance is the mother of idleness, the grandmother of destitution, and the great-grandmother of socialism and nihilistic discontent." If the metaphysical triplicity of man is doubted by any, all will readily concede his trinity as to brains, hands, and legs. These, according to a necessary and universal law of our nature, must be constantly employed, and they produce good or ill according as they are engaged.

The State which fails to educate its children bequeaths to posterity paupers; the State which fails to give industrial training to its youth transmits to posterity paupers and criminals.

Statistics show that a lack of industrial education produces more criminals than a want of religious, ethical, and intellectual culture.

Astounding as this statement may appear, the fact is even more amazing.

Let us examine the records of the State of Illinois for a given year on this point. That State may be taken as a fair representative of the others. The number of convicts in the Joliet penitentiary was 1,492. Of this number only 151 were illiterate; 127 could read but not write; 1,067 had a fair education; and 129 were graduates of colleges or universities. Therefore 90 per cent. were educated, as the word goes, so that their crimes could not be due to the lack of intellectual training. Also 91 per cent. had been Sunday-school scholars, and 18 per cent. temperance men. Evidently they did not lack religious and ethical instruction. But 77 per cent. had no trades or regular occupations, 16 per cent. simply "picked up" trades, and only 7 per cent. had been systematically taught some trade.

Here is the root of the evil. Here is the foundation of crime. Here is the fruitful source of supply of the inmates of our prisons and alms-houses. Here is an appeal to legislators and others having control of the organizing and conducting of our systems of education. Here is an appeal, loud and clear, to parent, teacher, patriot, philanthropist, all, to awake and check this mighty rush of our children to the prisons, and from them to hell.

The fact that nearly 20 per cent. of the inhabitants of the State of Illinois are foreign born, does not favorably alter the case in the least; rather would it tend to aggravate the matter. An analysis of the foreign-born population of Illinois shows that nearly 50 per cent. are from the German empire, with its justly boasted common school system.

The fact that Illinois has very destructive labor troubles is certainly significant. The germs of anarchy, socialism, and nihilism are found in industrial ignorance. The failure of the South to nip these evils in the bud by a liberal and wise system of com-

mon schools will produce a race of communistic Brobdingnags, who will defy law and stamp order and the sacred rights of person and property under their colossal feet.

The South has ample premonition. The warning notes from France, England, and Russia are borne across the sea. In our own country some of the older States, writhing and bleeding in the clutches of those evil monsters, admonish the new South to build her new institutions upon the sure foundation of industrial intelligence. Will the South heed now? Fools are taught by experience only, but wise men by the experience of fools.

Chicago (Ill.) pays \$18.93 per year for each pupil attending its public schools. This same city pays \$33 for each arrest of criminals, but up to the time of the collation of these statistics not one cent had been spent in industrial education. The city of London, England, expends annually \$385,000 for industrial schools. London had one arrest to every forty-eight of its population, while Chicago had one to every fifteen.

Must I uncover prostitution, and show that it prevails most in the ranks of the industrially ignorant? Must I spread before you the statistics showing that 95 per cent. of illegitimate births are found among mothers wanting industrial training?

These are startling facts, but are in accord with the economy of nature. Does not the remedy suggest itself to every thinking mind?

The laborer should be educated—should be trained, in order to protect his own life and health, to relieve him of many burdens which accompany inexperience and ignorance, and to enable him to carry law and system into his life and work.

“How beautiful and glorious to thought is law! Law governs the sun, the planets, and the stars. Law covers the earth with beauty and fills it with bounty. Law directs the light and moves the wings of the atmosphere, binds the great forces of the universe in harmony and order, awakens the melody of creation, quickens every sensation of delight, moulds every form of life. Law governs atoms and governs systems. Law governs matter and governs thought. Law springs from the mind of God.”

This system, this order, this law, this beautiful harmony, must be carried into the life of the laborer to insure competency, to guarantee reciprocity, and to sweeten toil. This must be done in the school, the training school, the industrial school.

What would you think of a man unacquainted with machinery assuming the conduct of a large mill, or moving carelessly among its wheels, bands, and shafts? Would you not expect each moment to see his body taken up by some swiftly-moving machinery and dashed again to the ground a lifeless and mangled corpse? And do you expect a man totally ignorant of the great and wonderful laws and systems and workings of nature to move unharmed among her machinery or enter her laboratory in safety?

Carpentering, blacksmithing, shoemaking, cooking, washing, fire-making, scrubbing, farming, and gardening are all governed by positive and immutable laws. They are as much science as mathematics, grammar, or natural philosophy, and should be taught with the same care that is bestowed upon these more favored branches.

There is science and art in fire-making. Has not our breakfast often been delayed and the whole day's plans disarranged because there was ignorance of the philosophy of fire-making? Has not our food often been brought to the table so completely divested of its native zest and sweetness that the most rapacious appetite and epicurean stomach would at once declare themselves in rebellion against the table? How many thousands go annually to premature graves by this system of cookery the great God alone knows.

Some poor victim of untrained cooks has said, “God sends the victuals, but the devil sends the cooks;” and Owen Meredith, in *Lucile*, exalts cooking thus:

We may live without music, poetry, and art,
We may live without conscience, we may live without heart,
We may live without friends, we may live without books,
But civilized man can not live without cooks.

Who does not detest the work of a "jack-leg" mechanic? He would starve were it not for his cheapness, which is indulged by popular ignorance and stupidity.

A recent writer estimates that more people die of the want of properly ventilated homes than of any other cause. Here the science and art of house-keeping has not been taught. It is true that the death rate from this cause is two and a half times greater among the manual laboring people than any other class of our population.

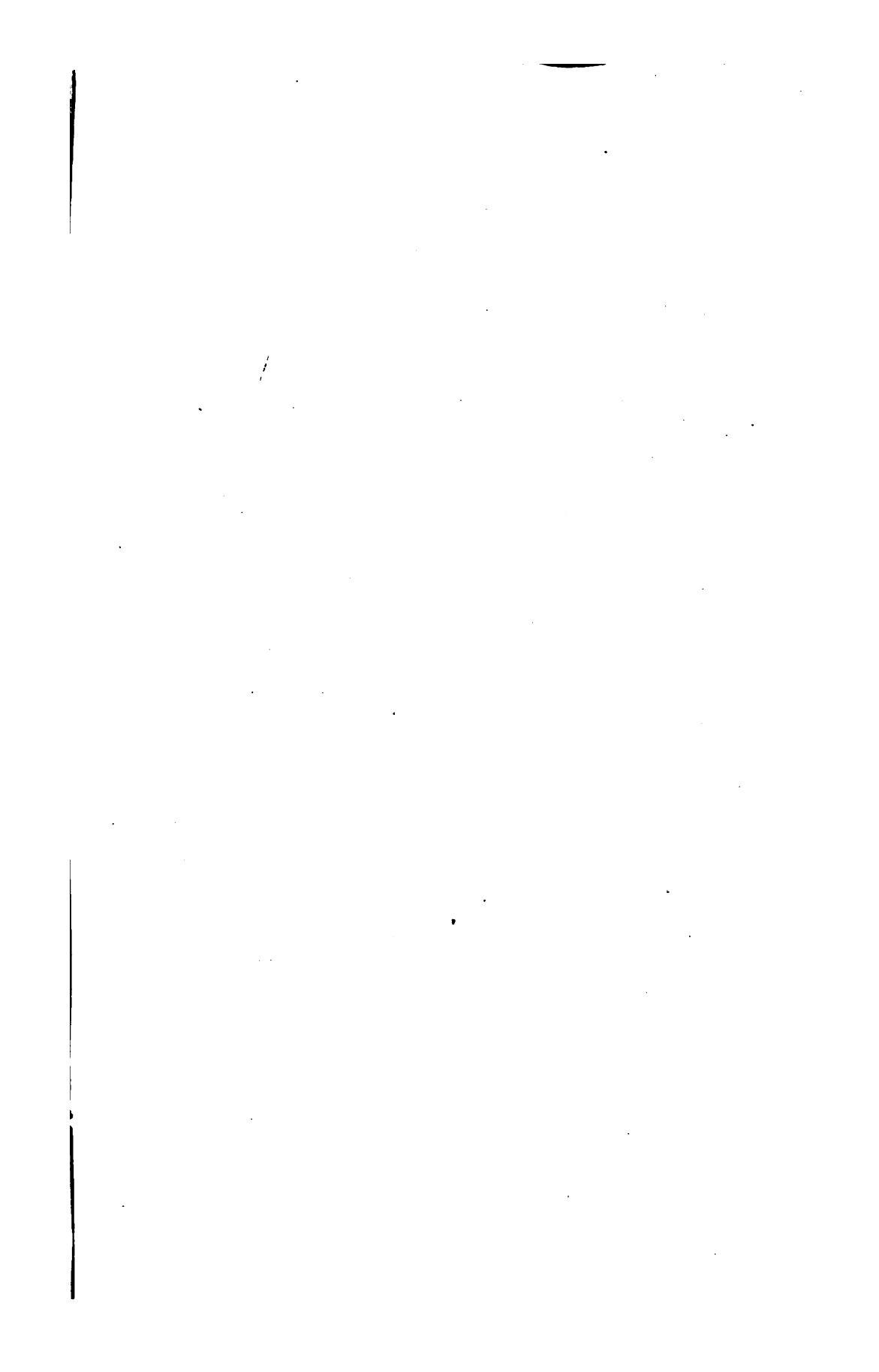
Should a girl be sent from the school-room to take charge of a home—to rear children—who does not thoroughly understand the science and art of a thousand little but important things connected with her life-work, upon which her happiness and the comfort of others, here and hereafter, depend? Would not a knowledge of these things be of more benefit than at least half of the geography, grammar, geometry, and metaphysical speculation crammed into the mind at the expense of the methods of obtaining a livelihood?

It is more important for the present generation to understand the uses of the various hand tools, how to build houses, and how to live in them, than to write better Greek than Homer, better Latin than Cicero, or recite the transactions of antiquity in a more charming style than Xenophon or Herodotus or Cæsar.

From across the great ocean—from Rome—the cheering news comes: "His Holiness dealt with the industrial question, speaking unfavorably of state socialism, but insisting that governments should make the material interests of the working class of the population their care." And thus the cause of the toiling millions gains strength wherever thought is led out by Christianity. Let us throw ourselves abreast of these advanced thinkers, and endeavor to move the press, the church, and the powers of state in behalf of the cause of industrial education, and move the laborer to properly appreciate the dignity and responsibility of his calling.









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